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5 or 7, ovate or oval-oblong, 1½ to 3 in. long, shortly and obtusely acuminate, somewhat coriaceous and shining. Axillary racemes 1 to 3 in. long, the terminal one longer. Flowers 4 to 5 lines long, on short pedicels, the clusters rather crowded. Standard broadly ovate; wings and keel scarcely shorter, but narrow-oblong. Ovules usually 4 to 6, all in the lower part of the ovary. Pod very flat and thin, 1 to 1½ in. long, very obtuse at both ends so as to become nearer square than round, but very oblique, sometimes as broad as long, but in some varieties narrower. Seeds 1 or 2.—*Pongamia uliginosa*, DC. Prod. ii. 416.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; Albert river, *Henne*; Fitzmaurice river, *F. Mueller*.

Queensland. Cape York, *W. Hill*.

Common in E. India and the Archipelago, extending from S.E. Africa to S. China.

70. PONGAMIA, Vent.

Calyx truncate. Standard orbicular, with inflexed auricles at the base; keel slightly incurved, obtuse. Upper stamen free at the base, connate with the others in a tube in the middle; anthers uniform. Ovary nearly sessile, with 2 ovules; style incurved, stigma small, terminal. Pod broadly and obliquely oblong or slightly falcate, thick but flat, 1-seeded, indehiscent, the sutures obtuse, without wings. Seed reniform.—Tree. Leaves pinnate, without stipellæ. Flowers in axillary racemes. Bracts very deciduous; bracteoles minute or none.

The genus is limited to a single species widely diffused over tropical Asia.

1. **P. glabra,** *Vent. Jard. Malm. t.* 28. Glabrous except a very slight pubescence on the inflorescence. Leaflets 5 or 7, ovate, shortly and obtusely acuminate, usually broad, about 3 in. long, on a rather long petiole, but variable in size. Racemes loose, about 3 to 5 in. long. Flowers in pairs, the pedicels 2 to 4 lines long. Standard about ½ in. diameter, lower petals shorter. Pod usually 1½ to 2 in. long and about 1 in. broad, sessile or nearly so, often somewhat falcate or with a very short incurved point.—Benth. Syn. Dalb. 117.

N. Australia. Fitzmaurice river, *F. Mueller*; Raffles Bay, *A. Cunningham*.

Queensland. Cape York and Fitzroy Island, *M'Gillivray*; Port Denison, *Fitzalan*; Edgecombe Bay, *Dallachy*.

Var. *minor*. Leaflets small and narrow.—Gulf of Carpentaria, *Leichhardt*; Cape Grafton, *A. Cunningham*; Port Denison, *Fitzalan*.

The species occurs throughout Southern India on the coast and plains to the foot of the hills, and is abundant in the Archipelago.

Tribe IX. Sophoreæ.—Trees woody climbers or rarely tall shrubs, or, in one or two species not Australian, almost herbaceous. Leaves pinnate, with several leaflets, usually without stipellæ, or reduced to one large leaflet. Stamens all free or scarcely united at the base.

This tribe is very near *Dalbergieæ*, differing only in the free stamens; from *Podalyrieæ* it is chiefly distinguished by the habit and foliage. It also forms the passage from *Papilionaceæ* to *Cæsalpinieæ*, presenting the greatest differences in the radicle, from short and quite straight to long and accumbent even in the same genus. *Barklya* has at first sight the almost regular flowers of some *Cæsalpinieæ*, but the upper petal is outside, not inside, a constant distinction between the two suborders.

71. SOPHORA, Linn.

Calyx-teeth very short. Standard broad, erect or reflexed; wings oblong, erect, free; keel-petals like the wings or rather larger, overlapping each other at the back but scarcely united. Stamens 10, free, or 9 of them slightly connected in a ring at the base; anthers uniform. Ovary shortly stipitate, with several ovules; style incurved, with a minute terminal stigma. Pod moniliform, fleshy, coriaceous or woody, indehiscent or opening at length in 2 valves, each seed enclosed in a separate cell. Seeds globular, oblong or flattened; cotyledons fleshy; radicle very short and straight or more or less elongated and inflexed.—Trees shrubs or rarely undershrubs. Leaves unequally pinnate, without stipellæ or with very small setaceous ones. Stipules small. Flowers white yellow or rarely violet-blue, in racemes either simple and terminal or forming large terminal panicles. Bracts small, deciduous; bracteoles usually none.

The genus is dispersed over the warmer regions of the New and the Old World, extending also into New Zealand and S. Chili, where it assumes the form distinguished by some as a genus under the name of *Edwardsia*, with a shorter standard and exserted stamens. The two Australian species belong to the true *Sophoras*, with a larger standard and the stamens enclosed in the keel. One is a common tropical seacoast tree or shrub, the other is endemic.

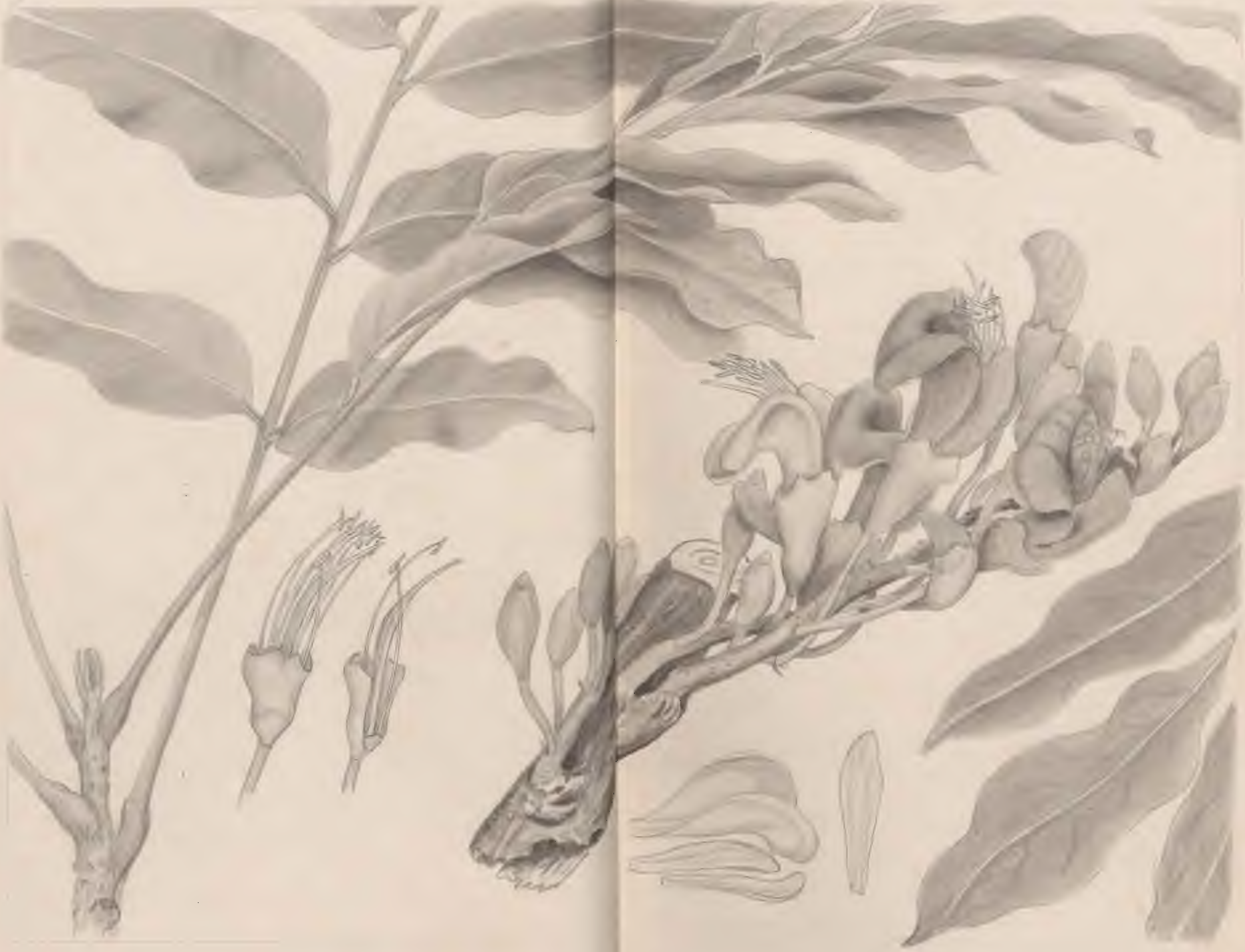
Hoary. Leaflets under 18, broadly ovate or orbicular, rather thick . . 1. *S. tomentosa.*
Softly pubescent. Leaflets above 20, oval-oblong, thin . . . . 2. *S. Fraseri.*

1. **S. tomentosa,** *Linn.; DC. Prod.* ii. 95. A tall shrub or small tree, hoary all over with a minute close tomentum. Leaflets 11 to 17, broadly ovate or orbicular, very obtuse or retuse, about 1 in. long or rather more, rather thick and sometimes almost silky, rarely becoming glabrous. Flowers pale yellow, in loose simple terminal racemes; pedicels as long as the calyx. Calyx very broad, about 3 lines long, truncate with scarcely prominent teeth. Standard broad, 9 to 10 lines diameter, spreading or reflexed above the middle; wings and keel rather shorter, covering the stamens. Pod indehiscent, much contracted between the seeds, appearing to consist of 5 to 10 nearly globular articles, each enclosing a globular seed with a hard shining testa; radicle scarcely prominent and straight.—Benth. in Mart. Fl. Bras. Pap. 314, t. 124, with the synonymy there cited.

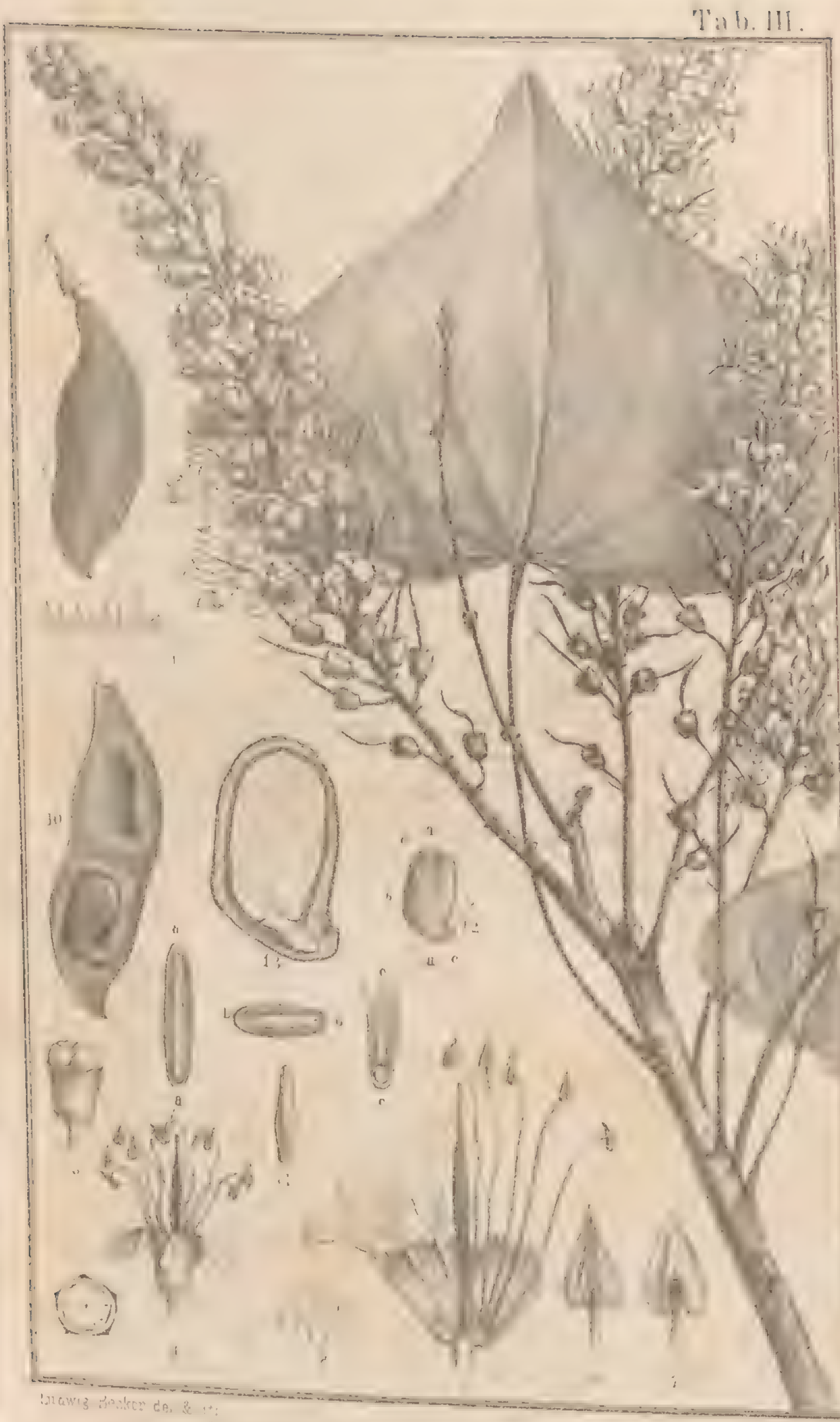
Queensland. Keppel Bay, Broad Sound, etc., *R. Brown;* on the seacoast and adjoining islands, from the Brisbane to the Burdekin, *F. Mueller*, *M'Gillivray*, *Fitzalan*, *Henne*, and others.

N. S. Wales. Hastings river, *Beckler.*

2. **S. Fraseri,** *Benth.* An erect shrub of 4 to 6 ft., the branches softly pubescent or tomentose, more slender than in *S. tomentosa.* Leaflets 21 to 31, oblong or rarely oval, obtuse or retuse, from under ½ in. to about ¾ in. long, rather thin, pubescent. Flowers rather smaller than in *S. tomentosa*, in similar loose terminal simple racemes. Calyx broad, 2 to 2½ lines long; the teeth prominent though very short and broad. Petals and stamens of *S. tomentosa*, except that 9 of the stamens appear to be very shortly connected in a ring at the base. Pod tomentose, much less contracted between the seeds than in *S. tomentosa*, the articles more oblong. Seeds ovoid-oblong, shining; radicle prominent and slightly incurved.



Tab. III.



Ludwig Becker del. & lit.

Ld. & Car. Imp.

Barklya syringifolia. F.M.

Queensland. Moreton Bay, *Fraser;* Murrum-Murrum Creek, *Leichhardt;* Pine river, *Fitzalan;* Ipswich, *Nernst.*

N. S. Wales. Clarence river, *Beckler.*

72. CASTANOSPERMUM, A. Cunn.

Calyx-teeth very short and broad. Standard obovate-orbicular, recurved, narrowed into a claw; wings and keel-petals shorter than the standard, all free and nearly similar, erect, oblong. Stamens 10, all free; anthers linear, versatile. Ovary on a long stipes, with several ovules, tapering into an incurved style; stigma small, terminal. Pod large, coriaceous, almost woody, turgid, 2-valved, spongy inside. Seeds large, nearly globular; cotyledons thick; radicle scarcely prominent, straight.—Tree. Leaves large, unequally pinnate. Flowers large, yellow, in loose axillary or lateral racemes. Bracts small; bracteoles none.

The genus is limited to a single species, endemic in Australia.

1. **C. australe,** *A. Cunn. in Hook. Bot. Misc.* i. 241, *t.* 51, 52. A tall glabrous tree. Leaves 1 to 1½ ft. long; leaflets 11 to 15, ovate-elliptical or broadly oblong, shortly acuminate, 3 to 5 in. long, shortly petiolulate. Racemes under 6 in. long, either in the axils of the older leaves or on the leafless older wood; pedicels nearly 1 in. long. Calyx about 8 lines long, including the turbinate base. Standard above 1 in. diameter. Pod 8 or 9 in. long, about 2 in. broad, slightly falcate, almost terete, the valves hard and thick, the spongy substance inside dividing it into 3 to 5 cells, each containing a large chestnut-like seed.

Queensland. Endeavour river, *Banks and Solander;* Brisbane river, Moreton Bay, *A. Cunningham, F. Mueller;* Pine river, *Fitzalan.*

N. S. Wales. Clarence river, *Beckler.*

The seeds are eaten roasted, like chestnuts.

73. BARKLYA, F. Muell.

Calyx-teeth very short and obtuse. Petals all free, obovate, erect, similar and nearly equal, on long claws, the upper outer one or standard rather broader than the others. Stamens 10, all free, longer than the petals; anthers sagittate. Ovary stipitate, with several ovules, tapering into a short style with a minute terminal stigma. Pod stipitate, flat, the valves thin and scarcely separating. Seeds flat, albuminous; cotyledons obovate, flat; radicle inflexed.—Tree. Leaves simple (unifoliolate), petiolate. Flowers small, yellow, in dense racemes. Bracts very small; bracteoles none.

The genus is limited to a single species, endemic in Australia, approaching in habit and in the small regular flowers to some *Cæsalpinieæ* allied to *Bauhinia,* but with the floral æstivation and the embryo of *Papilionaceæ.*

1. **B. syringifolia,** *F. Muell. in Journ. Linn. Soc.* iii. 158, *and Fragm.* i. 109, *t.* 3. A handsome tree, attaining from 20 to 60 ft., glabrous or the young shoots and inflorescence rusty-tomentose. Leaves very broadly cordate, shortly acuminate, 2, 3, or even 4 in. long and often as broad as long, entire, 5- to 7-nerved, on a petiole of 1 to 2 in., slightly thickened at the base and at the top. Stipules small, ovate, deciduous. Flowers of a bright golden yellow, in dense racemes of 6 to 9 in., forming handsome terminal

panicles. Pedicels short. Calyx about 2 lines long. Petal-claws rather longer than the calyx, the lamina about as long. Ovary glabrous, with 3 or 4 ovules. Pod oblong-lanceolate, oblique or slightly falcate, 1½ to 2 in. long and about ½ in. broad, narrowed at the base, with 1 or 2 seeds.

Queensland. Woods near Brisbane, *W. Hill*, *Fitzalan*; Rockhampton, *Dallachy*; Wide Bay, *Leichhardt*.

SUBORDER II. CÆSALPINIEÆ.

Flowers usually 5-merous, very rarely 4-merous or 3-merous, the sepals united at the base into a short tube, lined by the disk, bearing at its margin the petals and stamens, rarely forming a campanulate or tubular calyx with the stamens near the base, as in *Papilionaceæ*, the free part of the sepals or lobes of the calyx, imbricate or rarely valvate. Corolla irregular or nearly regular, either with the 5 (or 4 or 3) petals variously imbricate in the bud, but the upper one never outside and usually quite inside, or, in genera not Australian, some or all of the four lower petals wanting. Stamens 10 or fewer, or, in genera not Australian, indefinite, free or rarely more or less united, all perfect or several of them reduced to staminodia. Ovules anatropous or nearly so. Radicle of the embryo short and straight.

The tropical genera of this suborder are numerous, and have been distributed into several tribes, but these are not sufficiently marked to render it necessary to apply them to the few genera found in Australia. *Barklya* amongst *Sophoreæ* has the regular corolla of some *Cæsalpinieæ*, but with the æstivation of *Papilionaceæ*, and *Erythrophlœum* amongst *Mimoseæ* has the imbricate æstivation of *Cæsalpinieæ*, but in a very slight degree, with the inflorescence characteristic of *Mimoseæ*.

74. GUILANDINA, Linn.

Sepals 5, shortly united at the base, much imbricate, nearly equal or the lowest rather larger and more concave. Petals 5, nearly equal, sessile, spreading. Stamens 10, free; anthers uniform. Ovary sessile, with 2 ovules; style subulate, with a small stigma. Pod ovate, compressed, covered with prickles, 2-valved, thickly coriaceous. Seeds ovoid or globular, with a very thick hard fleshy testa and no albumen.—Woody climbers, armed with prickles. Leaves twice pinnate. Flowers yellow, in simple or paniculate racemes. Bracts very deciduous.

A genus of 2 species, both of them dispersed over the tropical regions of the New and the Old World, one only hitherto found in Australia.

1. **G. Bonducella,** *Linn. Spec.* 545. A shrub, with loose spreading or climbing branches, pubescent or villous in all its parts, armed with numerous scattered hooked prickles, especially on the petioles. Leaves with a common petiole of 1 to 1½ ft.; pinnæ in 4 to 6 distant pairs, each 4 to 6 in. long; leaflets 8 to 12 pairs, oblong, ¾ to 1 in. long or rarely nearly twice that size. Stipules lobed and leafy, deciduous. Racemes 4 to 6 in. long, simple or branched in the upper axils. Flowers shortly pedicellate and crowded in the upper part. Bracts with a long recurved point. Calyx about 4 lines long. Petals scarcely longer. Pod 2 to 3 in. long, about 1½ in. broad. Seeds large, of a bluish-grey or lead colour.—Lam. Illustr. t. 336.

Queensland. Cumberland Islands, *R. Brown*; Barnard Island, *M'Gillivray*; Edge-

combe Bay, *Dallachy;* Low Island, *Henne* (the latter specimen a leaf only, and therefore doubtful). Widely spread and often very common, especially near the sea, in tropical Asia, Africa, and America. It is usually confounded with *G. Bonduc*, Linn., which is a much rarer plant, although equally found, indigenous or introduced, in East India, in the Archipelago, and in the West Indies. It is nearly glabrous, has usually larger leaflets, no stipules; the bracts are erect, not recurved, and the seeds are said to be yellow, not grey. It remains to be ascertained how far these differences are constant.

75. CÆSALPINIA, Linn.

Sepals 5, shortly united at the base, much imbricated, the lowest one larger and concave. Petals 5, spreading, rather unequal, the upper inner one the smallest, the 2 lowest outer ones the largest. Stamens 10, free; anthers uniform, ovate. Ovary with 2 or more ovules; style subulate, with a small stigma. Pod flattened, obliquely ovate, oblong or broadly linear-falcate, without prickles, 2-valved. Seeds thick or flattened, with a very small hilum; albumen none; radicle short, straight.—Shrubs trees or woody climbers, often armed with scattered recurved prickles. Leaves abruptly bipinnate. Flowers yellow, in racemes, either single in the upper axils or forming terminal panicles. Filaments more or less hairy at the base.

A considerable genus, spread over the tropical regions of the New and the Old World. The Australian species are both of them common Asiatic ones.

Glabrous. Pinnæ 2 to 4 pairs. Leaflets 2 or 3 pairs, ovate, rather acute. Pod ovate, 1-seeded . . . . 1. *C. nuga.*
Pubescent or tomentose. Pinnæ 6 to 8 pairs. Leaflets 8 to 12 pairs, oblong, very obtuse. Pod oblong, 6 to 8-seeded . . . . 2. *C. sepiaria.*

1. **C. nuga,** *Ait.; DC. Prod.* ii. 481. A woody climber, glabrous in all its parts, armed with a few scattered recurved prickles, especially on the petioles. Pinnæ 2, 3, or 4 pairs; leaflets 2 or 3 pairs to each pinna, ovate, 1½ to 2 in. long, usually rather acute, but occasionally obtuse, coriaceous and shining. Racemes 4 to 8 in. long, forming large terminal panicles. Pedicels slender. Lowest sepal about 5 lines long, the others shorter. Petals scarcely exceeding the lowest sepal. Ovary with 2 ovules. Pod obliquely oval, acuminate, flat, with coriaceous valves. Seed usually solitary, flat, broad.—*C. paniculata*, Desf.; DC. Prod. ii. 481; Wight, Ic. t. 36.

Queensland. Barnard Islands, *M'Gillivray.* Generally distributed over E. India and the Archipelago, extending to S. China.

2. **C. sepiaria,** *Roxb.; W. and Arn. Prod.* 282. A woody climber, the branches petioles and racemes more or less tomentose or pubescent and armed with numerous scattered recurved prickles. Pinnæ 6 to 10 pairs; leaflets 8 to 12 pairs, oblong, very obtuse, rarely exceeding ½ in. in length, pubescent or villous when young, often glabrous when old. Stipules broad and semi-sagittate, but very deciduous, or sometimes none. Flowers numerous, yellow, in axillary and terminal racemes of 5 or 6 in. Pedicels longer than the calyx. Bracts ovate, acute, very deciduous. Lowest sepal about 5 lines long. Petals about 6 lines. Ovary with several ovules. Pod oblong-linear, 2 to 3 in. long and nearly 1 in. broad, rounded at the end, with a long narrow point, glabrous. Seeds 6 to 8, ovoid, thick, the hilum very small at one end. —Wight, Ic. t. 37.

Queensland. Near Brisbane, *Henne.* An E. Indian species, much planted for hedges, and now naturalized in the W. Indies and some other tropical countries. It may therefore possibly be an introduced plant also in Australia.

76. MEZONEURUM, Desf.

Sepals 5, shortly united at the base, much imbricated, the lowest one larger and concave. Petals 5, spreading, rather unequal, the upper inner one the smallest, the 2 outer lower ones the largest. Stamens free; anthers uniform, ovate or oblong. Ovary with 2 or more ovules; style subulate, with a very small terminal stigma. Pod quite flat, very thin or coriaceous, indehiscent or opening tardily in 2 valves, the upper suture bordered by a wing. Seeds very flat reniform or orbicular, with a small lateral hilum; albumen none.—Woody climbers (or rarely erect?), sparingly armed with small prickles, usually only at the base of the pinnæ of the leaves. Leaves abruptly bipinnate. Flowers (yellow?) in racemes, either simple in the upper axils or forming large terminal panicles. Filaments glabrous or slightly hairy.

The genus is dispersed over tropical Asia and Africa, with one Australian species which appears to be endemic.

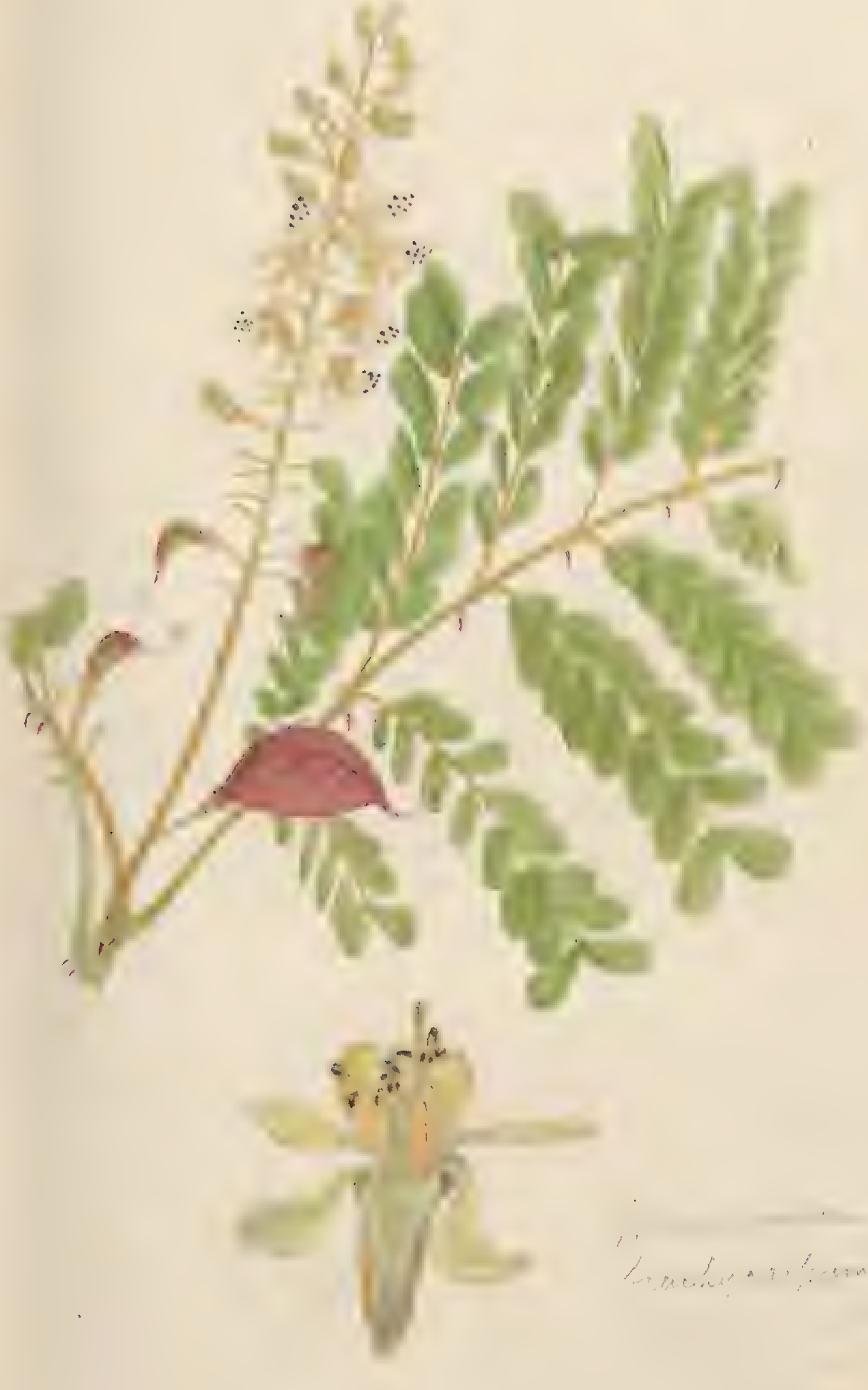
1. **M. brachycarpum,** *Benth.* Apparently climbing, the branches and petioles tomentose-pubescent, unarmed except a minute prickle under each raceme and a rather larger recurved one under each pinna of the leaf. Leaves often above 1 ft. long; pinnæ 3 to 8 pairs, each 3 to 4 in. long; leaflets 4 to 10 pairs, ovate-oblong, very obtuse or retuse, ½ to ¾ in. long, very oblique at the base, glabrous above, pubescent underneath. Racemes paniculate, about ½ ft. long, clothed with a golden-yellow pubescence; pedicels very short. Flowers much smaller than in the rest of the genus, the calyx-lobes not above 2 lines long and the petals scarcely exceeding them. Filaments rather longer, slightly bearded at the base. Style filiform, with a slightly dilated stigma. Ovules 2 (or sometimes 3?). Pod obliquely and broadly obovate or almost orbicular, nearly 2 in. long and 1½ in. broad, more coriaceous than in most species, and perhaps dehiscent, the wing of the upper suture about 2 lines broad. Seed large, solitary, very flat, reniform, with a very small hilum.

Queensland. Wide Bay, *Bidwill* (in fruit and leaves); Araucaria Range, Moreton Bay, *F. Mueller* (leaves only).

N. S. Wales. Richmond river, *C. Moore* (flowers and fragments of leaves).

77. PTEROLOBIUM, R. Br.

Sepals 5, united in a cup at the base, much imbricate, the lowest longer and concave. Petals 5, spreading, the 2 lowest rather larger than the others. Stamens 10, free; anthers ovate, uniform. Ovary sessile, with a single ovule. Style filiform or slightly clavate, with a truncate stigma. Pod sessile, samaroid, the lower seed-bearing part obliquely ovate or lanceolate, indehiscent, ending in an oblique oblong or falcate membranous wing. Seed attached near the apex of the cell, flat, without albumen.—Trees or woody climbers, armed with scattered hooked prickles, especially at the base of the pinnæ of the leaves. Leaves abruptly bipinnate. Flowers in racemes, either simple or forming terminal panicles. Filaments usually bearded.



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The genus contains very few species, dispersed over tropical Asia and Africa. The Australian one is endemic, but not quite certain as to its genus until the fruit has been seen.

1. **P. nitens,** *F. Muell. Herb.* A handsome woody climber, the branchlets and rhachis of the leaves minutely rusty-pubescent. Prickles very small, except under the pinnæ of the leaves. Pinnæ 3 to 5 pairs; leaflets 3 to 5 pairs, obliquely obovate or almost rhomboid, very obtuse, rarely exceeding ½ in., shining above, glabrous or ciliate on the edge. Racemes rusty-pubescent, apparently paniculate; pedicels much shorter than in the other species, scarcely exceeding 1 line. Flowers rather small. Calyx lower lobe considerably longer than the others. Filaments bearded at the base. Style slightly clavate. Fruit not seen.

Queensland. Mount Mueller, near Edgecombe Bay, *Dallachy*. Although I have not seen the fruit, the 1-ovulate ovary, bearded stamens and style, leave little doubt that this belongs to *Pterolobium*.

78. PELTOPHORUM, Vog.

(Cæsalpinia, *sect.* Brasilettia, *DC.*)

Sepals 5, united in a cup at the base, much imbricate, nearly equal or the lowest rather larger and more concave. Petals 5, spreading, undulate, the 2 lower outer ones rather larger than the others. Stamens 10, free; anthers uniform, oblong-linear. Ovary sessile, with 2 or more ovules; style filiform, with a broad peltate stigma. Pod oblong-lanceolate, thin and flat, indehiscent, tapering at the base, the margins thin and faintly marked within them by a longitudinal nerve, but not distinctly winged. Seeds 1, 2 or rarely more, very flat, without albumen.—Tall hard-wooded trees, without prickles. Leaves twice pinnate, with numerous leaflets. Flowers yellow, in racemes forming terminal panicles.

The genus consists of two or three tropical American species, one in S.E. Africa, and one or perhaps two in the Indian Archipelago, one of which is the Australian one.

1. **P. ferrugineum,** *Benth.* A large tree, the young branches petioles and inflorescence densely rusty-tomentose. Pinnæ of the leaves 8 to 10 pairs; leaflets 10 to 20 pairs or fewer on the lowest pinnæ, oblong, very obtuse or retuse, oblique at the base, ½ to ¾ in. long, shining above, minutely rusty-tomentose underneath. Racemes 5 or 6 in. long or more, forming a large terminal panicle. Pedicels very short. Bracts small, lanceolate, deciduous. Calyx 4 to 5 lines long, globular before opening. Petals rather longer, obovate, undulate, villous at the base. Pod about 3 to 4 in. long, ¾ to nearly 1 in. broad, shortly acuminate, narrowed at the base, glabrous or nearly so, with 1, 2, or 3 seeds.—*Cæsalpinia ferruginea*, Dcne. Herb. Tim. Descr. 134; Miq. Fl. Ind. Bat. 1, part i. 111 and 1081; *C. arborea*, Zoll. in Miq. l. c. 112.

N. Australia, *Bynoe*; islands of the N. coast, *R. Brown* (in fruit); Earl De Grey's Island, *Armstrong*. In the Archipelago from Timor to the Philippines. Some Malacca specimens, perhaps belonging to a different although closely allied species, have the pods twice as long, with 3 or 4 seeds.

79. CASSIA, Linn.

(Cathartocarpus, *D. Don.*)

Sepals 5, somewhat unequal, much imbricate, the outer ones the smallest, scarcely connected at the base. Petals 5, spreading, nearly equal or the lower outer ones rather larger. Stamens usually 10, free, either all nearly equal and perfect or 2 or 3 lower ones larger or on longer filaments, and 3 or 4 upper ones reduced to small staminodia; anthers when perfect opening at the end in pores or in short lateral slits. Ovary with several ovules, incurved, tapering into a short style. Pod cylindrical or flat, indehiscent or 2-valved. Seeds oblong or obovate, transverse, with fleshy albumen; cotyledons flat or rarely folded, usually cordate; radicle short, straight.—Trees shrubs or herbs. Leaves abruptly pinnate, the leaflets opposite. Flowers yellow or very rarely reddish-purple or white, in axillary or terminal racemes or solitary. Bracts usually deciduous. Bracteoles none.

A large genus, widely distributed within the tropical and subtropical regions of both the New and the Old World, but particularly numerous in America. Of the 27 Australian species, 5 are widely spread over tropical Asia and Africa, 1 is American also found in Africa, the remaining 21 are all endemic. The genus is divided into several sections, founded chiefly upon the fruit; but as some are only represented in Australia by single species, and the perfect pod rarely accompanies the specimens, the chief divisions in the following synopsis are, for convenience, selected also from other characters.

A. *Flowers in pedunculate racemes or umbels, either axillary or forming a terminal panicle or compound raceme. (The Australian species all shrubs or trees.)*

Stamens 7 perfect, of which 2 or 3 lower ones larger or on longer filaments; 3 small and imperfect staminodia.
  Lower stamens with long filaments and short ovate anthers, the other perfect ones with oblong-linear anthers. Pod very long and thick, with horizontal seeds (**Cathartocarpus**) . . . 1. *C. Brewsteri.*
  Perfect anthers all oblong-linear, the lower ones longer.
    Racemes short, almost corymbose, axillary or in a narrow terminal panicle. Pod thick or turgid. Seeds mostly horizontal. (**Chamæfistula.**)
      Leaflets 3 or 4 pairs, with glands between those of each pair, but none on the petiole below . . . . 2. *C. lævigata.*
      Leaflets 4 to 10 pairs, with a gland at the base of the petiole, but none between the leaflets . . . . 3. *C. Sophera.*
    Racemes short, loose, on long peduncles, forming a large terminal panicle. Leaflets 10 to 20 pairs, pubescent. Pod very flat (**Chamæsenna**) . . . . 4. *C. laxiflora.*
    Racemes elongated, on long axillary peduncles. Bracts large, deciduous. Pod very flat. (**Chamæsenna.**)
      Glabrous. Leaflets 4 to 8 pairs, large, broad, very obtuse, reticulate. Stipules ovate. Bracts broad, obtuse . . . 5. *C. magnifolia.*
      Pubescent. Leaflets 9 to 15 pairs, oblong or ovate, obtuse, mucronate. Stipules ovate-cordate, acuminate, rigid. Bracts broad, obtuse . . . . 6. *C. venusta.*
      Pubescent. Leaflets 9 to 15 pairs, ovate-lanceolate, acute, mucronate. Stipules narrow. Bracts acuminate . . . 7. *C. notabilis.*
      Glabrous. Leaflets 4 or 5 pairs, oblong-linear. Stipules small, subulate. Bracts broad, obtuse . . . . 8. *C. pleurocarpa.*
Stamens 10, all with oblong-linear perfect anthers, all equal or the lower ones rather longer. (**Psilorhegma.**)
  Glands between the leaflets (at least of the lowest pair), oblong, subulate or stipitate, very rarely wanting.
    Bracts acuminate.
      Glabrous or minutely pubescent. Leaflets 6 to 10 pairs, obovate. Bracts lanceolate, often rather broad . . . . 9. *C. suffruticosa.*
      Softly pubescent. Leaflets 4 to 6 pairs, obovate or cuneate, mostly emarginate. Bracts very narrow . . . . 10. *C. retusa.*

Bracts small, broad, obtuse. Leaflets oblong-lanceolate or linear.

Leaflets usually 6 to 10 pairs (Eastern species) . . . . 11. *C. australis.*

Leaflets usually 3 to 5 pairs (Western species) . . . . 12. *C. Chatelainiana.*

Glands between the leaflets sessile, flat, obscure or none (ovoid in *C. leptoclada*).

Very glutinous, otherwise glabrous. Leaflets usually 4 or 5 pairs . . . . 13. *C. glutinosa.*

Glabrous or glaucous. Stipules leafy, semicordate. Leaflets usually 3 to 5 pairs . . . . 14. *C. pruinosa.*

Glabrous, glaucous, hoary, or white-tomentose. Stipules small subulate or none. Flowers in very short corymbose racemes.

Leaves all simple, phyllodineous. Glands none or on the upper edge about the middle.

Leaves usually slender and green. Peduncles 1- or 2-flowered. Pod very much curved or annular . . . . 15. *C. circinata.*

Leaves usually thick, hoary or white, vertically compressed. Peduncles several-flowered. Pod straight or slightly curved . . . . 16. *C. phyllodinea.*

Leaflets 1 or more pairs, rarely none in the lower leaves and then the phyllodineous petiole has a gland at the end.

Leaflets mostly 1 or 2 pairs, terete or linear . . . . 17. *C. eremophila.*

Leaflets mostly 3 to 6 pairs, linear-terete, channelled above 18. *C. artemisioides.*

Leaflets mostly 3 to 6 pairs, linear-lanceolate, cuneate, elliptical or almost obovate . . . . 19. *C. Sturtii.*

Leaflets 1, 2, or rarely 3 pairs; ovate, obovate, or broadly oblong. Pod not above ½ in. broad . . . . 20. *C. desolata.*

Leaflets 2 or rarely 1 pair, broadly obovate. Pod nearly ¾ in. broad, very obtuse . . . . 21. *C. oligophylla.*

Softly pubescent. Leaflets 2 to 4 pairs, elliptical-oblong. Stipules small, setaceous. Flowers in an umbel of 4 to 6 . . 22. *C. oligoclada.*

Glabrous and glaucous. Stems slender. Leaflets 2 pairs, obovate or oblong. Glands ovoid. Stipules minute. Peduncles 2-flowered . . . . 23. *C. leptoclada.*

B. *Flowers in simple racemes, either terminal or becoming lateral by the elongation of the branch. Stamens* 5 *to* 10, *all perfect. Pod flat.* (**Absus.**)

Herbaceous. Leaflets 2 pairs, obovate . . . . 24. *C. Absus.*

C. *Peduncles* 1-*flowered, solitary or* 2 *or* 3 *together in or just above the axils. Stamens* 5 *to* 10, *all perfect. Pod flat.* (**Chamæcrista.**)

Leaflets usually under 12 pairs. Gland stipitate below the lowest pair. Sepals rather obtuse. Anthers 5.

Petals scarcely longer than the calyx. Stigma peltate . . . . 25. *C. pumila.*

Petals twice as long as the calyx. Stigma small . . . . . . 26. *C. concinna.*

Leaflets above 20 pairs. Sepals very acute. Anthers 6 to 10 . . 27. *C. mimosoides.*

Besides the above there are in Dallachy's Queensland collection fragments of a tree, apparently of some species of *Cassia* of the sections *Cathartocarpus* or *Chamæfistula*, but insufficient for identification or description.

C. tomentosa, Linn. f., a shrubby species allied to *C. Sophera* but more tomentose, with more oblong leaflets and a flatter pod, occurs in some Australian collections as introduced or cultivated.

SECTION I. CATHARTOCARPUS.—Sepals obtuse. Stamens 10, 3 or 4 upper ones small and imperfect; 5 or 4 equal, perfect, with short filaments and oblong or linear anthers, opening in terminal pores and sometimes also in short slits; 2 or 3 lower ones with long filaments and short ovate anthers opening on the inner face in short slits. Pod long, hard, thick or terete, usually indehiscent. Seeds more or less flattened and lying horizontally in the pod (the flat sides at right angles to the valves), separated by complete partitions.—Usually trees. Flowers in axillary pedunculate racemes.

1. **C. Brewsteri,** *F. Muell. 4th Ann. Rep.* 17. A tree, attaining 30 to 40 ft., usually glabrous in all its parts. Leaflets 2 to 4 pairs, from narrow-ovate or obovate and about ¾ in. long to narrow-oblong or oblong-lanceolate and 2 in. long, obtuse or emarginate, narrowed at the base, the common petiole without glands. Racemes 3 to 6 in. long. Bracts minute or none. Pedicels slender. Sepals about 3 lines long. Petals stipitate, narrow-ovate, rather obtuse, about 4 lines long. Filaments of the 3 long lower stamens longer than the petals, swollen into a globular appendage about the middle, with ovate anthers, the other stamens shorter than the petals. Pod (only one seen) nearly 1 ft. long, about 8 lines wide, thick but slightly compressed, the edges persistent after the inside has fallen away. Seeds thick, ovoid, the testa pulpy when soaked; albumen copious.—*Cathartocarpus Brewsteri*, F. Muell. Fragm. i. 110.

Queensland. Hilly pastures and river-banks on the Burdekin, *F. Mueller:* Rockhampton, *Thozet;* Port Denison and Fitzroy river, *Bowman.*

Var. *tomentella.* Branches, under side of the leaflets and inflorescence minutely hoary-tomentose. Leaflets short and broad. Flowers rather small.—Castle Creek, *Bowman.*

The seeds of this and some other species of *Fistula* and *Chamæfistula* appear to be flattened at right angles to the embryo, which, as in the other sections of *Cassia*, lies thus parallel to the valves. In others, such as the African *C. goratensis*, I have seen the cotyledons so folded as to have no particular relative position, but I have as yet been able to examine but very few perfect seeds in either of these sections.

SECTION II. CHAMÆFISTULA.—Sepals obtuse. Stamens 10, 3 upper ones small and imperfect, 7 perfect, the 2 or 3 lower ones often larger or on longer filaments than the others; anthers oblong-linear, the cells opening in terminal pores. Pod terete or turgid, or if compressed thick, woody coriaceous or membranous, indehiscent or 2-valved. Seeds some or all more or less flattened and lying horizontally in the pod (at right angles to the valves), separated by complete or incomplete partitions or pulp.—Shrubs, or in species not Australian, tall herbs. Flowers in axillary pedunculate racemes or terminal panicles.

2. **C. lævigata,** *Willd.; Vog. Syn. Cass.* 19. An erect glabrous shrub of several feet. Leaflets 3 or 4 or rarely 2 pairs, ovate to lanceolate, usually acuminate, 1½ to 3 in. long, with an oblong or slender gland between those of each pair. Racemes axillary, pedunculate, short and almost corymbose, the upper ones forming a short terminal panicle. Sepals unequal, the inner ones 4 or 5 lines long. Petals broad, very obtuse, varying from ½ to ¾ in. Perfect anthers 4, almost sessile, 1 on a short and 2 on much longer filaments. Pod 2 to 3 in. long, membranous or slightly coriaceous, cylindrical or more or less inflated when ripe, 2 to 3 in. long, opening at length in 2 valves. Seeds crowded and horizontal or the upper ones less crowded and almost vertical.—F. Muell. Fragm. iv. 14.

Queensland. Near Brisbane, *Herb. F. Mueller.*

N. S. Wales. Hastings and Clarence rivers, *Beckler.*

A common species in tropical America, occurring also in tropical Africa, but probably introduced there and perhaps not really indigenous in Australia.

3. **C. Sophera,** *Linn.; Vog. Syn. Cass.* 20, var. *schinifolia.* An erect shrub or undershrub of several feet, usually glabrous. Leaflets 4 to 10 pairs, lanceolate, mostly acute, 1 to 2 in. long, with an obovate or ovate acute gland on the petiole near the base. Racemes short and few-flowered, on short peduncles in the upper axils, and forming a narrow terminal almost raceme-like panicle. Sepals 3 to 4 lines long. Petals broad, obtuse. Perfect anthers 2 larger than the others, all on short filaments. Pod 2 to 4 in. long, at first flat but thick, when ripe terete or turgid, 2-valved. Seeds crowded and mostly or all horizontal.—*C. schinifolia*, A. DC. 7th Not. Pl. Rar. Hort. Gen. 35; *C. Barclayana*, Sweet, Fl. Austral. t. 32; Vog. Syn. Cass. 45; F. Muell. Fragm. iv. 14.

Queensland. Burdekin river, *F. Mueller;* near Fort Cooper, *Thozet;* Moreton Bay, *Dallachy, C. Stuart;* Ipswich, *Nernst.*

N. S. Wales. Hunter's River, *R. Brown;* New England, *C. Stuart;* Hastings river, *Tozer.*

Var. *pubescens.* Branches petioles and inflorescence more or less pubescent. Petiolar gland occasionally disappearing.—Broad Sound, *R. Brown, Bowman;* Ottley's Station, *Leichhardt;* Paramatta, *Woolls.*

The species, in its glabrous form, is common in E. India and the Archipelago and in tropical Africa. It is there often confounded with *C. occidentalis*, of which I had formerly considered it a variety, and under which it is included in Hooker and Thomson's Indian distributions. The latter species is, however, annual, with the few leaflets of *C. lævigata*, but with the petiolar gland of *C. Sophera*, and the pod remains flat, although thick when ripe.

SECTION III. CHAMÆSENNA. Sepals obtuse. Stamens of *Chamæfistula.* Pod very flat and thin. Seeds flattened parallel to the embryo, and lying vertically in the pod (parallel to the valves), separated by more or less complete partitions or thin pulp. Shrubs. Flowers in axillary pedunculate racemes or terminal panicles.

4. **C. laxiflora,** *Benth.* A tall erect shrub, softly tomentose-pubescent. Leaflets 10 to 20 pairs, elliptical-oblong, ¾ to 1 in. long, without any glands on the common petiole. Stipules inconspicuous. Flowers in loose racemes pedunculate in the upper axils, the upper ones forming a loose pyramidal terminal panicle. Bracts inconspicuous. Sepals obtuse, the inner ones fully 3 lines long. Petals not twice as long. Perfect anthers 7, nearly equal, on very short filaments, opening by terminal pores, 3 very small and empty. Style slightly thickened at the end with a truncate stigma. Pod stipitate glabrous, thin and flat, acuminate, about 3 in. long and 4 lines wide.

N. Australia. Arnhem N. Bay, *R. Brown.*

5. **C. magnifolia,** *F. Muell. Fragm.* i. 166. Glabrous. Leaflets 4 to 8 pairs, broadly ovate, very obtuse and emarginate, broad and oblique at the base, 2 to 3 in. long, coriaceous and strongly veined on both sides, the common petiole ½ to 1 ft. long; glands between the leaflets obscure or none. Stipules persistent, ovate, the margins recurved at the base. Peduncles attaining 1 ft. in length, rigid, bearing a raceme in the upper part. Flowers not seen. Fruiting pedicels 1 in. long. Pod very flat, 3 to 4 in. long, ¾ in. broad, glabrous, with thin valves. Seeds flat, on slender funicles; albumen scanty.

Queensland. Rocky granite ridges, Upper Gilbert river, *F. Mueller.*

6. **C. venusta,** *F. Muell. Fragm.* i. 165. A tall shrub or small tree, the young parts softly silky-pubescent or villous, becoming at length nearly glabrous. Leaflets 10 to 15 pairs, or in smaller specimens 7 to 10 pairs, oblong or ovate-oblong, obtuse and finely mucronate, 1 to 2 in. long, very obliquely rounded at the base, rather coriaceous; glands very small between the leaflets of most pairs. Stipules ovate-cordate, acuminate, rigid and persistent, especially at the base of the peduncles, the margins usually revolute at the base. Peduncles in the upper axils ½ to 1 ft. long, rigid, bearing in their upper portion a raceme of flowers on short pedicels. Bracts membranous, orbicular, imbricate before flowering, but soon falling off. Sepals 5 to nearly 6 lines long. Petals rather longer. Perfect anthers 7 on short filaments, 2 of them nearly twice as large as the others, 3 small imperfect stamens. Ovary villous. Pod very flat, about 3 in. long and ½ in. broad. Seeds flat, rather distant.

N. Australia. Cambridge Gulf and Dampier's Archipelago, *A. Cunningham;* granite hills, Nichol Bay, and Hammersley Range, *F. Gregory's Expedition;* sandstone table-land, Arnhem's Land, *F. Mueller;* Attack Creek, *M'Douall Stuart's Expedition;* raised also in the Melbourne garden from seeds gathered in *M'Kinlay's Expedition.*

7. **C. notabilis,** *F. Muell. Fragm.* iii. 28. Villous with long soft hairs. Leaflets 9 to 15 pairs, ovate-lanceolate or oval-oblong, acute or the lower ones obtuse and mucronate, sessile, very obliquely rounded or truncate at the base, 1 to 1½ in. long; glands very small between the leaflets of most of the pairs. Stipules narrow and deciduous. Racemes on elongated peduncles in the upper axils. Bracts lanceolate, acuminate, very deciduous. Pedicels short. Sepals villous, about 3 lines long. Petals shortly exceeding the calyx. Perfect anthers 7 on very short filaments, of which 2 larger than the others; 3 small imperfect stamens. Ovary glabrous. Pod not seen.

N. Australia. Between Bonney river and Mount Morphett, *M'Douall Stuart's Expedition,* and probably the same species, leaves only, from Strangways River.

8. **C. pleurocarpa,** *F. Muell. Fragm.* i. 223 *and* ii. 182. A tall erect glabrous shrub. Leaflets usually 4 or 5 rather distant pairs, oblong-linear, 1½ to 2 in. long, rather thick; glands none. Stipules small, subulate, deciduous. Flowers loosely racemose in the upper portion of axillary peduncles. Bracts membranous, broad, obtuse, very deciduous. Sepals thin, broad, 3 to 3½ lines long. Petals unequal, rather longer than the calyx. Perfect anthers 7, on short filaments, 2 of them nearly twice as large as the others and incurved; 3 small imperfect stamens. Ovary glabrous. Pod stipitate, flat, very obtuse, about 2 in. long and ½ in. wide, the valves thin with a raised longitudinal line along the centre, interrupted between each seed. Seeds thick, cuneate-oblong, truncate, with a raised line across each near the end, corresponding to that on the pod; albumen copious.

N. S. Wales. Mount Goningberi, Barrier Range, *Victorian Exploring Expedition.*
W. Australia. Murchison river, *Oldfield.*

SECTION IV. PSILORHEGMA. Sepals obtuse. Stamens 10, all perfect and similar or the lower ones rather larger; anthers oblong-linear, opening in slits either short and terminal or extending more or less down the sides. Pod very flat and thin. Seeds flattened parallel to the embryo and lying vertically in the pod (parallel to the valves) separated by more or less complete partitions or thin pulp. Shrubs. Flowers in very short corymbose racemes or umbels pedunculate in the axils, rarely reduced to 2 flowers.

9. **C. suffruticosa,** *Kœn.*; *Vog. Syn. Cass.* 30. A tall weak shrub, quite glabrous or the young branches inflorescence and under side of the leaves pubescent. Leaflets 6 to 10 pairs, obovate or broadly oblong, obtuse, mostly 1 to $1\frac{1}{2}$ in. long; glands oblong or slender, usually stipitate, between those of the 1, 2 or 3 lowest pairs. Stipules linear or subulate. Flowers in short umbel-like racemes in the upper axils. Bracts lanceolate, acuminate, rather persistent. Sepals very obtuse, the inner ones 3 to 4 lines long. Petals broad, $\frac{1}{2}$ in. long or more, 2 or 3 lower ones rather larger than the others. Anthers all on short filaments, 2 or 3 rather larger than the others. Pod 3 to 4 in. long, 4 to 5 lines broad. - W. and Arn. Prod. 289; *C. acclinis*, F. Muell. Fragm. iv. 13.

N. Australia. Islands of the N. Coast, *R. Brown.*

Queensland. Percy islands, *A. Cunningham*; Rockhampton, *Dallachy*; Edgecombe Bay and Port Denison, *Fitzalan*; Ipswich, *Nernst.*

N. S. Wales. Hastings river, *Beckler.*

Although more variable in aspect than the Indian specimens, some of the Australian specimens, especially some of Brown's, cannot be distinguished from Asiatic ones. The species is said to be in cultivation only in E. India, but indigenous in the Archipelago. It is very closely allied to, and perhaps a variety of *C. glauca.*

10. **C. retusa,** *Soland.*; *Vog. in Linnæa*, xv. 72. Shrubby and softly pubescent, especially the young parts. Leaflets 4 to 6 pairs, obovate to oblong-cuneate, very obtuse or emarginate, $\frac{1}{2}$ to above 1 in. long; glands slender or stipitate between those of the 1, 2 or 3 lowest pairs. Stipules linear, acuminate, deciduous. Flowers crowded in short almost umbellate racemes, on axillary peduncles shorter than the leaves. Bracts narrow, acuminate. Sepals broad, very obtuse. Petals not twice as long. Anthers all nearly equal. Pod stipitate, 2 to 4 in. long, 4 to 5 lines broad.

Queensland. Bustard Bay, *Banks and Solander*; Shoalwater Bay, Broad Sound and Thirsty Sound, *R. Brown.* The species is closely allied on the one hand to *C. suffruticosa*, on the other to some forms of *C. australis.*

11. **C. australis,** *Sims, Bot. Mag. t.* 2676. A tall erect shrub, either quite glabrous or loosely pubescent, the young branches more or less angular. Leaflets usually 8 to 10 pairs, in some specimens reduced to 6 or 7, in others increased to 11 or 12 pairs, oblong lanceolate or almost linear, obtuse or acute, $\frac{1}{2}$ to $\frac{3}{4}$ or rarely 1 in. long, the margins usually recurved and sometimes revolute; glands slender or stipitate between the leaflets of most or only of the lower pairs, or rarely almost none. Stipules subulate, deciduous. Flowers 2 to 6 in a loose umbel on peduncles usually shorter than the leaves, but sometimes longer. Bracts small, broad, obtuse. Sepals very obtuse, 2 to 3 lines long. Petals broad, $\frac{1}{2}$ in. long or rather more. Anthers 2 or 3 often rather larger than the others. Pod shortly stipitate, glabrous, 3 to 4 in. long, 3 to 4 lines broad, straight or curved into a half-circle. Seeds shining black. —Bot. Reg. t. 1322; *C. umbellata*, Reichb. Icon. Exot. t. 206; *C. Schultesii*, Colla, Hort. Ripul. App. ii. 344, and iii. t. 10; *C. Barrenfieldii* (afterwards corrected to *C. Fieldii*), Colla, Hort. Ripul. App. iv. 23, t. 11; *C. coronilloides*, A. Cunn.; Benth. in Mitch. Trop. Austr. 384.

Queensland. Broad Sound, *R. Brown*, *A. Cunningham*; Burdekin river and Peak Downs, *F. Mueller*; Rockhampton, *Thozet*; Comet and Condamine rivers, *Leichhardt.*

N. S. Wales. Paramatta, *Woolls;* Blue Mountains and Hunter's River, *R. Brown*, *A. Cunningham*, and others; New England, *C. Stuart;* Hastings, Macleay and Clarence rivers, *Beckler;* Boyd river, *Leichhardt.*

Victoria. Gipps' Land, *F. Mueller.*

Var. *revoluta.* Leaflets narrow-linear and acute, the margins much revolute, glabrous or pubescent.—*C. revoluta*, F. Muell. in Trans. Vict. Inst. 1852, 120; *C. aciphylla*, Benth. in A. Gray, Bot. Amer. Expl. Exped. i. 465. To this belong most of the southern and several of the N. S. Wales specimens from the interior.

Var. *pedunculata.* Peduncles much longer than the leaves.—St. George's River, *R. Brown;* Blue Mountains, *A. Cunningham*, and others.

Var. (?) *glaucescens.* Slender and glaucous. Leaflets few.

N. Australia. Hooker's Creek, *F. Mueller.*

12. **C. Chatelainiana,** *Gaud. in Freyc. Voy.* 485, *t.* 111. An erect glabrous shrub of several ft. Leaflets 3, 4 or 5 rather distant pairs, linear, obtuse, about $\frac{3}{4}$ to 1 in. long, rather thick, flat; gland usually long and subulate between those of the lowest pair only, but sometimes also of the next pair, or rarely wanting. Flowers rather large, in umbels at the end of short axillary peduncles with sometimes 1 or 2 pedicels below the umbel. Bracts ovate or oblong, very obtuse. Sepals nearly 3 lines long. Petals broad, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Lower stamens rather larger than the others. Pod straight, often $\frac{1}{2}$ in. broad.—Vog. Syn. Cass. 47.

W. Australia. Sharks Bay, *Gaudichaud;* Murchison River, *Oldfield;* also *Drummond.* Very nearly allied on the one hand to *C. australis*, in which, however, the leaflets when linear are usually revolute, and on the other to *C. eremicola*, which has fewer leaflets without the subulate gland.

13. **C. glutinosa,** *DC. Prod.* ii. 495. An erect glabrous shrub, the specimens very glutinous and brittle. Leaflets usually 4 or 5 pairs, oblong-linear, rather obtuse, $\frac{1}{2}$ to 1 in. long or rather more, flat and rather thick; gland flat and broad between the leaflets of the lowest 1 or 2 pairs. Flowers umbellate on axillary peduncles usually shorter than the leaves. Sepals coloured, obtuse, 3 to $3\frac{1}{2}$ lines long. Petals twice as long. Anthers 2 or 3 lower ones upon rather longer filaments than the others. Pod straight, about 4 lines broad, as glutinous as the rest of the plant.—Vog. Syn. Cass. 47.

N. Australia. Attack Creek, *M'Douall Stuart's Expedition.* Described by De Candolle probably from specimens gathered on the N. coast in Baudin's Expedition, but I have not seen them.

14. **C. pruinosa,** *F. Muell. Fragm.* iii. 48. A tall erect shrub, glabrous but often more or less glaucous. Leaflets 3 to 5 pairs, oblong-elliptical, rather obtuse, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, rather thick and flat; gland small and flat, usually between the leaflets of the lowest 1 or 2 pairs. Stipules broad, leafy, semi-cordate. Flowers rather large, 2 to 5 together in umbels on axillary peduncles usually shorter than the leaves. Sepals coloured, obtuse, the inner ones fully 3 lines long. Petals twice as long. Anthers 3 or 4 rather longer than the others. Pod stipitate, straight, apparently about 4 lines broad, but not seen perfect.

N. Australia. N.W. coast, *Bynoe;* Rocky Hills, Nichol Bay, *F. Gregory's Expedition.*

N. S. Wales. Between Stokes Range and Cooper's Creek, *Wheeler.*

15. **C. circinata,** *Benth. in Mitch. Trop. Austr.* 384. An erect bushy shrub of several ft., glabrous or hoary with a minute silky tomentum. Leaves

all phyllodineous without leaflets, linear-terete, often almost filiform or very slightly vertically flattened, 1 to 1½ in. long, often clustered on the nodes of the previous year's wood, and then sometimes not half so long; gland none, or very obscure at or above the middle of the phyllodium. Peduncles short, axillary, bearing 1 or 2 flowers on slender pedicels. Bracts minute. Sepals obtuse, 2 to 2½ lines long. Petals twice as long. Anthers 2 or 3 rather larger than the others and on longer filaments. Pod fully 5 lines broad, very flat and thin as in the rest of the section, but usually curved into a complete circle.—R. Br. in App. Sturt, Exped. 15.

Queensland. Balonne river, *Mitchell*; Burdekin river, *F. Mueller*; Suttor river, *D'Orsay*; Edgecombe Bay, *Dallachy*.

N. S. Wales. Mount Flinders, *A. Cunningham*; Darling river to Barrier Range, *Victorian Exploring Expedition.*

16. **C. phyllodinea,** *R. Br. in App. Sturt, Exped.* 15. An erect rigid bushy shrub, hoary or white with a close silky tomentum. Leaves all phyllodineous, linear, vertically compressed but thick, obliquely obtuse truncate or even shortly 2-lobed at the end, 1 to 1½ in. long, narrowed at the base; gland none, or a faint one on the upper edge. Peduncles short, axillary, bearing a very short raceme of several flowers on slender pedicels. Bracts very small. Sepals obtuse, 2 to 2½ lines long. Petals twice as long. Anthers 2 or 3 rather larger than the others. Pod stipitate, straight or slightly curved, 5 to 6 lines broad, obtuse.

N. S. Wales. Lachlan and Darling desert to Barrier Range and Cooper's Creek, *Victorian Exploring Expedition*, *Dallachy and Goodwin*, and others.

S. Australia. S. coast, *R. Brown*; Flinders range, *F. Mueller.*

F. Mueller is disposed to consider this and the preceding phyllodineous species, together with the five following ones as forms of one species, and it is true that we occasionally meet with specimens apparently connecting them, but so it is with the whole of the section from *C. glauca* to *C. circinata*, which we certainly should not be justified in uniting. Those specimens of *C. eremophila*, var. *platypoda*, in which the lower leaves are phyllodineous without leaflets, can generally if not always be distinguished from *C. phyllodinea* by the glands at the end of the phyllodia where the leaflets have aborted.

17. **C. eremophila** (by a clerical error **nemophila**), *A. Cunn. in Vog. Syn. Cass.* 47. An erect bushy shrub, glabrous or slightly hoary but never so white as some of the allied species. Leaflets 1 or 2 pairs, very narrow-linear, thick, terete and channelled above or slightly flattened out, sometimes very short, usually about 1 in. long, and often more, the petiole terete or vertically flattened; gland depressed between the lowest or the only pair; the lower leaves sometimes reduced to a flattened phyllodium with the gland at the end where the leaflets have aborted. Peduncles short, or rarely as long as the leaves, bearing a short almost corymbose raceme of several flowers on slender pedicels. Bracts very small. Sepals obtuse, rarely 2 lines long. Petals usually more than twice as long. Anthers 2 or 3 lower ones rather larger or on longer filaments than the others. Pod straight or slightly curved, 3 to 4 lines broad or rarely more.—R. Br. in App. Sturt. Exp. 14; *C. canaliculata*, R. Br. l. c.; *C. heteroloba*, Lindl. in Mitch. Three Exped. ii. 122.

Queensland. On the Maranoa, *Mitchell*; desert of the Suttor and Burdekin, *F. Mueller.*

N. S. Wales. Near Port Jackson, *Herb. F. Mueller*; New England, *C. Stuart*;

common in the desert interior from the Lachlan and Darling to the Barrier Range, *A. Cunningham*, *Victorian Exploring Expedition*, etc.

Victoria. Murray desert and Wimmera, *F. Mueller*, *Mitchell*, *Dallachy*, and others.

S. Australia. S. coast, *R. Brown;* from the Murray to Flinders' Range and Spencer's Gulf, *F. Mueller;* Venus Bay and Mount Serle, *Warburton.*

W. Australia, *Drummond, Roe;* Stirling Range, Phillips Range, etc., *Maxwell.*

A very variable species, of which specimens occur occasionally with here and there an additional pair of leaflets, showing an approach towards *C. artemisioides*, and some of the western ones with the gland rather more prominent are at first sight like reduced forms of *C. Chatelainiana.* The two following varieties which have been distinguished as species, are very inconstant; they both occur mixed with the common form.

Var. *platypoda.* Petioles vertically compressed, the lower ones often without leaflets.—*C. platypoda*, R. Br. in App. Sturt Exped. 15.

Var. *zygophylla.* Leaflets 1 or 2 pairs, linear, flat, often 1 to 2 lines broad.—*C. zygophylla*, Benth. in Mitch. Trop. Austr. 288.

18. **C. artemisioides,** *Gaud. in DC. Prod.* ii. 495. An erect bushy shrub, hoary or white with a minute silky tomentum. Leaflets 3 to 6 pairs, linear-terete and more or less channelled above, slender but rigid, usually $\frac{3}{4}$ to 1 in. long, but sometimes longer or shorter; glands small and flat between those of the lower 1 or 2 pairs. Flowers in a short dense raceme on peduncles much shorter than the leaves. Bracts small, ovate. Sepals obtuse, 2 to $2\frac{1}{2}$ lines long. Petals about twice as long. Anthers 2 or 3 longer than the others on longer filaments. Pod straight, 2 to 3 in. long, about 4 lines broad.—*C. teretifolia*, Lindl. in Mitch. Three Exped. i. 289; *C. teretiuscula*, F. Muell. in Linnæa, xxv. 389.

Queensland. Dawson river, *F. Mueller.*

N. S. Wales. In the interior, *Fraser;* near Mount Flinders, *A. Cunningham;* in the Darling desert, *Mitchell* and others, and thence to the Barrier Range, *Victorian Exploring Expedition* and others.

S. Australia. Near Cudnaka and towards Lake Torrens, *F. Mueller;* Mount Serle, *Warburton.*

Nearly allied to *C. eremophila* and *C. Sturtii*, this differs from the former chiefly in the more numerous leaflets, from the latter in their shape and in the narrower pod. If the three were united, it is the name of *C. artemisioides* that has the priority.

19. **C. Sturtii,** *R. Br. in App. Sturt Exped.* 14. A bushy shrub, glabrous or more frequently glaucous hoary or white with a close tomentum. Leaflets usually 3 to 5 pairs, linear, lanceolate, cuneate, elliptical or almost obovate, $\frac{1}{2}$ to 1 in. long, thick, flat or concave, sometimes all small and almost ovate, the lower leaves rarely with only 2 pairs; glands small between the leaflets of the lowest 1 or 2 pairs. Stipules small and deciduous as in all the allied species. Flowers in short axillary dense racemes as in *C. eremophila*, but usually more numerous on a longer peduncle. Sepals obtuse, 2 to 3 lines long, frequently tomentose. Petals twice as long. Pod when perfect fully $\frac{1}{2}$ in. broad, straight or slightly curved and very obtuse.

Queensland, *Bowen;* Suttor river, *F. Mueller.*

N. S. Wales. Darling river to the Barrier Range and Cooper's Creek, *Victorian Exploring Expedition*, *Howitt's Expedition*, etc.

Victoria. Murray scrub and Wimmera, *Dallachy.*

S. Australia. Near Cudnaka, *F. Mueller.*

W. Australia, *Drummond.*

Var. (?) *coriacea.* Leaflets usually 4 or 5 pairs, small oblong or obovate, very obtuse, thick and green or glaucous.—S. coast, *R. Brown;* Mount Flinders, *A. Cunningham;* Darling and Murray desert and S. Australia.

Var. (?) *tomentosa.* Leaflets oblong or narrow-obovate, very white. Sepals much longer and tomentose.— Mount Murchison and Barrier Range. This may be a variety of *C. desolata.* The specimens of these forms, although numerous, are often fragmentary, and rarely have good fruit, or show at once the foliage of the barren and of the flowering branches.

20. **C. desolata,** *F. Muell. in Linnæa*, xxv. 389. Shrubby, the young parts hoary or white, becoming glabrous with age. Leaflets 1, 2 or very rarely 3 pairs, ovate obovate or broadly oblong, $\frac{1}{2}$ to 1 in. long or more, coriaceous; gland depressed between those of the lowest or of both pairs, rarely wanting. Flowers in a very short raceme, on short axillary peduncles. Bracts ovate, concave. Sepals about 3 lines long, usually pubescent or tomentose. Petals twice as long. Anthers nearly equal or 2 or 3 lower ones scarcely longer. Pod not seen perfect but apparently more like that of *C. Sturtii* than of *C. oligophylla.*

N. Australia. Depuech Island, N.W. coast, *Bynoe;* Victoria river, *F. Mueller;* Central Mount Stuart, *M'Douall Stuart.*

N. S. Wales. Barrier Range, *Victorian Exploring Expedition.*

S. Australia. Spencer's Gulf, *Warburton.*

Some of the specimens are very doubtful and may belong to *C. oligophylla,* which this species closely resembles in foliage and flowers; and it would require more perfect materials than I have seen to establish satisfactorily the distinction between this species and *C. Sturtii* on the one hand and *C. oligophylla* on the other.

21. **C. oligophylla,** *F. Muell. Fragm.* iii. 49. A tall shrub, glabrous or minutely pubescent. Leaflets 2 or rarely only 1 pair, broadly obovate, very obtuse, $\frac{3}{4}$ to 1 in. long, coriaceous; glands depressed and rather large between those of each pair. Flowers in short dense racemes, on axillary peduncles, rather more numerous than in the preceding species, with rather larger oblong or lanceolate bracts. Sepals obtuse, pubescent, about 3 lines long. Petals not twice as long. Anthers 2 or 3 lower ones rather longer than the others. Pod 2 to $2\frac{1}{2}$ in. long, nearly $\frac{3}{4}$ in. broad, very obtuse.

N. Australia. Sandy plains, Nichol Bay, *F. Gregory's Expedition.* From the few specimens gathered, this appears to be closely allied to *C. desolata,* differing chiefly in the pod twice as broad as in *C. artemisioides;* half as broad again as in *C. Sturtii,* and probably as in *C. desolata;* but better specimens are required to confirm the species.

22. **C. oligoclada,** *F. Muell. Fragm.* iii. 49. A shrub of 1 to 3 ft., softly pubescent in all its parts. Leaflets 3 or 4 pairs, or in slender starved specimens only 1 or 2 pairs, elliptical-oblong, obtuse or almost acute, shortly mucronate, $\frac{3}{4}$ to 1 in. long; glands none. Stipules small, setaceous. Flowers 4 to 6, umbellate, on slender axillary peduncles, about as long as the leaves; pedicels almost filiform. Bracts minute, deciduous. Sepals obtuse, the largest about 2 lines long. Petals twice as long or the upper inner ones rather less. Anthers 3 a little larger than the others. Pod stipitate, falcate, pubescent, 1 to $1\frac{1}{2}$ in. long and about 4 lines broad. Seeds 4 to 6, on very short funicles.

N. Australia. Cambridge Gulf, N.W. coast, *A. Cunningham;* Upper Victoria river, *F. Mueller;* Gulf of Carpentaria, *R. Brown.*

Var. (?) *gracilis.* Very slender and quite glabrous. Leaflets 1 or 2 pairs. Flowers smaller.—Attack Creek, *M'Douall Stuart.*

The short broad falcate pod of this species reminds one at first sight of that of the Sennas.

23. **C. leptoclada,** *Benth.* A shrub of 3 or 4 ft., glabrous and very glaucous, with very slender often purplish branches. Leaflets 2 pairs, obovate to oblong-elliptical, very obtuse and sometimes emarginate, those of the upper pair ½ to 1 in. long, of the lower pair smaller or wanting in the lower leaves; glands small, ovoid, between those of each pair. Stipules very minute. Peduncles in the upper axils very short, bearing 2 flowers on filiform pedicels, or sometimes the peduncle adnate to the branch, the pedicels then proceeding from a little above the axil. Sepals obtuse, not 2 lines long. Petals deep yellow, above 4 lines long. Anthers 2 or 3 rather larger than the others. Pod stipitate, flat and glabrous, either nearly orbicular and 1-seeded, or 2-seeded and about ½ in. long and 4 lines broad.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown.* (*Herb. R. Br.*)

SECTION V. ABSUS.—Sepals usually obtuse. Stamens 5 to 10, all perfect and similar, the anthers opening in slits either short and terminal or extending down the sides of the cells. Pod flat, oblique and obliquely acute. Seeds lying vertically in the pod. Herbs or (in species not Australian) shrubs, often glandular-pubescent. Flowers in simple terminal racemes, becoming sometimes lateral by the elongation of the branch.

24. **C. Absus,** *Linn.; Vog. Syn. Cass.* 50. A viscidly pubescent much-branched annual or biennial, rarely exceeding 1 ft. Leaflets 2 pairs, obliquely and broadly obovate, obtuse, ½ to 1 in. long or rarely more, the common petiole rather long and slender; glands small between the leaflets of the lowest or of both pairs. Stipules narrow. Flowers small, in short terminal or at length lateral racemes. Bracts small, reflexed. Sepals narrow, obtuse, pubescent, about 3 lines long. Petals scarcely longer. Stamens usually 5. Style dilated at the end, with a rather broad fringed stigma. Pod 1 to 1½ in. long and about ¼ in. broad. Seeds with very little albumen.—F. Muell. Fragm. iii. 50.

N. Australia. Upper Victoria river, *F. Mueller;* islands of the Gulf of Carpentaria, *R. Brown.*

Queensland. Bustard Bay, *Banks and Solander;* Port Denison, *Fitzalan;* Bowen river, *Bowman.*

The species is common in tropical Asia and Africa.

SECTION VI. CHAMÆCRISTA.—Sepals obtuse or acute. Stamens 5 to 10, all perfect; anthers opening in slits either short and terminal or extending more or less down the sides of the cells. Pod linear, flat, straight or falcate. Seeds lying vertically in the pod. Herbs or undershrubs. Peduncles axillary, 1-flowered, solitary or 2 or 3 together.

25. **C. pumila,** *Lam.; Vog. Syn. Cass.* 65. A diffuse, more or less pubescent perennial of short duration, with a hard almost woody base, the stems rarely exceeding 1 ft. Leaflets much fewer than in *C. mimosoides*, in the Australian specimens usually 8 to 12 pairs, linear-falcate, 2 to 3 lines long; gland stipitate on the petiole below the lowest pair. Pedicels axillary, solitary, shorter than the leaves, with minute bracteoles above the middle. Sepals rather obtuse, about 2 lines long. Petals scarcely exceeding the sepals. Stamens 5, nearly equal, obtuse. Style short, slightly thickened at

the end, with a broadly peltate stigma. Pod narrow, 1 to $1\frac{1}{2}$ in. long, oblique or slightly curved.

Queensland. Port Curtis, *M'Gillivray;* Bowen river, *Bowman.* Pedicels longer than in the Indian specimens, but the style and other essential characters are quite the same.

26. **C. concinna,** *Benth.* A diffuse perennial, woody at the base, more or less pubescent, with the habit of *C. pumila*, but at once known by the much larger flowers and by the style. Leaflets 8 to 10 or rarely 12 to 15 pairs, rather crowded, linear-falcate, mucronate, 2 to 3 lines long; gland stipitate below the lowest pair. Peduncles 1-flowered, solitary, usually longer than the leaves, with minute bracteoles at or above the middle. Sepals 3 lines long, obtuse or minutely mucronate. Petals nearly twice as long. Stamens 5; anthers nearly equal. Style incurved, not thickened, with a small terminal stigma. Pod rarely above 1 in. long, about 2 lines wide. *C. pumila*, F. Muell. Fragm. iii. 47, not of Lam.

N. Australia. Upper Victoria river, *F. Mueller.*

Queensland. Keppel Islands, *M'Gillivray;* Wide Bay, *Bidwill;* Broad Sound, *Bowman;* Rockhampton, *Thozet, Dallachy;* Moreton Bay, *C. Stuart.*

N. S. Wales. Mount Flinders, *Leichhardt.*

27. **C. mimosoides,** *Linn.; Vog. Syn. Cass* 68. An annual or perennial of short duration, with a hard almost woody base, and numerous diffuse or ascending wiry stems, of 1 to 2 ft. or rarely more, usually pubescent. Leaves $1\frac{1}{2}$ to 2 in. long; leaflets numerous (20 to 50 pairs), linear-falcate, mucronate, seldom above 2 lines long; gland depressed, below the lowest pair. Pedicels axillary, solitary or 2 or 3 together, unequal, but rarely above $\frac{1}{2}$ in. long. Sepals very acute, above 3 lines long. Petals 3 to 4 or rarely 5 lines long. Stamens 7 to 10; anthers all similar, but rather unequal in size. Style slightly dilated at the end with a truncate stigma. Pod $1\frac{1}{2}$ to 2 in. long, scarcely 2 lines broad, oblique or slightly curved.—F. Muell. Fragm. iii. 48.

N. Australia. Victoria river, *F. Mueller;* Port Essington, *Armstrong;* islands of the Gulf of Carpentaria, *R. Brown.*

Queensland. Broad Sound and Northumberland islands, *R. Brown;* common in the colony in moist pastures, *A. Cunningham, F. Mueller,* and others.

N. S. Wales. Clarence river, *Beckler.*

80. PETALOSTYLES, R. Br.

Sepals 5, much imbricate, somewhat unequal, scarcely connected at the base. Petals 5, spreading, nearly equal. Stamens 3 perfect; filaments very short; anthers linear, the cells opening inwardly in longitudinal slits; 2 small staminodia, with acuminate imperfect anthers. Ovary nearly sessile, with several ovules; style large and petal-like, saccate immediately above the ovary, with 3 erect lobes, 2 short ones in front, the other much longer, concave, the midrib prominent inside and terminating at the top in a small stigma. Pod flat, oblong-linear, oblique, 2-valved. Seeds ovate-oblong, compressed; testa shining; funicle expanded into a fleshy appendage distinct from the seed; albumen copious; cotyledons flat.—Shrubs. Leaves simply pinnate. Flowers yellow, on axillary peduncles.

The genus is limited to a single species, endemic in Australia, very nearly allied to *Cassia* (sect. *Chamæcrista*) and to *Labichea*, but distinguished especially by the very singular style.

1. **P. labicheoides,** *R. Br. in App. Sturt Exped.* 17. An erect, bushy, nearly glabrous, somewhat glaucous shrub of several feet, the young shoots minutely silky. Leaflets from about 11 to above 30, mostly alternate along the rhachis with an odd terminal one, narrow-oblong, mucronate, $\frac{1}{4}$ to $\frac{3}{4}$ in. long, narrowed at the base, but not oblique, thick, somewhat concave, the midrib only conspicuous underneath. Stipules narrow and very deciduous. Peduncles axillary, 1-flowered, with 2 small very deciduous bracteoles. Sepals acute, $\frac{1}{2}$ in. long, green and glabrous. Petals obovate, nearly $\frac{3}{4}$ in. long. Ovules 4 to 6. Style deep-yellow, like the petals, and not much shorter. Pod 1 to $1\frac{1}{2}$ in. long.

N. Australia. Dampier's Archipelago, *Bynoe*; Nichol Bay, *F. Gregory's Expedition.*

Queensland. Suttor Range, rare, *F. Mueller.*

N. S. Wales. Barrier Range, *Victorian Exploring Expedition.*

S. Australia. Akava river, *F. Mueller*; Mount Serle and towards Spencer's Gulf, *Warburton.*

Var. *cassioides.* Leaflets smaller, numerous, obovate or oblong, obtuse or retuse.—Sturt's Creek and Gulf of Carpentaria, *F. Mueller.*

81. LABICHEA, Gaudich.

Sepals 4 or 5, much imbricate, somewhat unequal, scarcely connected at the base. Petals as many as sepals, spreading, nearly equal. Stamens 2; filaments very short; anthers oblong-linear, opening in terminal pores, either both alike or one of them produced into a tube exceeding the other and filled with pollen at the base only. Ovary sessile or shortly stipitate, with 2 or rarely 3 ovules, tapering into a short style, with a small terminal stigma. Pod oblong or lanceolate, oblique, flat, 2-valved. Seeds obovate or oblong, with a hard shining testa; funicle (in the species examined) expanded below the top into a globular fleshy appendage; albumen copious; cotyledons flat.—Shrubs or undershrubs. Leaves unequally pinnate, or from the common petiole not being developed, consisting of 3 or 5 digitate leaflets or reduced to the terminal leaflet. Stipules small, deciduous. Flowers yellow, few together, in short loose axillary racemes. Bracts small and deciduous. Bracteoles none.

The genus is limited to Australia, and is very nearly allied to *Cassia.*

Sepals 5. Petals 5. Anthers unequal.
  Leaves pinnate, with an elongated common petiole . . . . 1. *L. cassioides.*
  Leaflets digitate, without any common petiole . . . . 2. *L. nitida.*
Sepals 4. Petals 4.
  Bushy shrub. Leaves simple or digitate. Anthers unequal . . . 3. *L. lanceolata.*
  Bushy shrub. Leaves simple or digitate. Anthers equal . . . . 4. *L. rupestris.*
  Undershrub with nearly simple stems. Leaves all simple. Anthers equal . . . . 5. *L. punctata.*

1. **L. cassioides,** *Gaud. in DC. Prod.* ii. 507. A bushy glabrous shrub. Leaves pinnate, with the common petiole $\frac{1}{2}$ to 1 in. long; leaflets 5 to 15, or reduced to 3 in the upper leaves, narrow-oblong or linear, $\frac{1}{3}$ to 1

in. long, coriaceous, with a pungent point. Racemes loose, often as long as the leaves. Sepals 5, the outer ones 5 lines long, the innermost rather shorter and more petal-like. Petals 5, rather longer than the calyx, nearly orbicular. Anthers incurved, one oblong-linear, the other much longer and polliniferous at the base only. Ovary silky-pubescent, with 2 ovules. Pod not seen, but represented in Gaudichaud's figure like that of the other species, except that there is no swelling of the funicle.—Gaud. in Freyc. Voy. 485, t. 112; *L. tephrosiæfolia*, Meissn. in Bot. Zeit. 1855, 12.

W. Australia. Sharks' Bay, *Gaudichaud;* between Moore and Murchison rivers, *Drummond*, 6*th Coll. n.* 7.

2. **L. nitida,** *Benth.* A rigid shrub, with divaricate slightly pubescent branches. Leaflets usually 5, digitate, without a common petiole, from obovate-oblong to elliptical, obtuse with a pungent point, coriaceous and shining above, the central one ½ to 1 in. long, the lateral ones smaller, all shortly petiolulate. Racemes short and loose. Flowers much larger than in *L. rupestris.* Sepals 5, about 4 lines long. Petals 5, the lower ones fully ½ in. long, the upper ones rather smaller. One anther at least half as long again as the other. Ovary very villous, with 3 ovules in both the flowers examined. Pod not seen.

N. Australia. Victoria river, *Bynoe.*
Queensland, *Burdekin Expedition.*

3. **L. lanceolata,** *Benth. in Hueg. Enum.* 41. An erect glabrous shrub, of 6 ft. or more. Leaflets sometimes all or mostly solitary, from narrow-oblong to lanceolate or linear, obtuse or acute, with a pungent point, 1½ to 4 in. long, coriaceous and shining, on a petiolule of 1 to 2 lines, at the base of which are occasionally 1 or 2 very small leaflets; in other specimens the central leaflet is much smaller, and there are 1 or 2 less disproportionate ones on each side. Racemes loose, nearly as long as the leaves. Sepals 4, about 4 lines long. Petals 4, longer than the calyx. One anther nearly twice as long as the other, without pollen above the middle. Ovules 2. Pod about 1 in. long. Seeds with a testa marked with longitudinal rows of glandular dots, and becoming swollen and pulpy when soaked.—*L. diversifolia*, Meissn. in Pl. Preiss. i. 23; Lindl. and Paxt. Fl. Gard. t. 52; *L. bipunctata*, Paxt. Mag. x. 150, with a fig.

W. Australia. King George's Sound to Swan River, *A. Cunningham, Fraser, Huegel, Drummond*, 1*st Coll. n.* 161, *Preiss, n.* 1027, and others; Murchison river, *Oldfield.*

4. **L. rupestris,** *Benth. in Mitch. Trop. Austr.* 342. A small hard bushy shrub, the branches pubescent or at length glabrous. Leaflets in some specimens mostly 3-foliolate, the terminal one linear-oblong, 1 to 2 in. long, coriaceous, with a pungent point, the lateral ones much smaller, in other specimens most or all digitate, with 3 or 5 less unequal leaflets, without any common petiole. Racemes short dense and few-flowered. Sepals 4, about 2½ lines long. Petals about the same length. Anthers both nearly of the same size, scarcely shorter than the petals. Ovules 2. Pod short, acuminate, frequently 1-seeded only, but not seen ripe.—*L. digitata*, Benth. in Mitch. Trop. Austr. 273.

Queensland. Sandstone rocks and ravines about Mount Pluto, *Mitchell;* Newcastle

Range, *F. Mueller* (in leaf only). The two forms I had distinguished, with 1-foliolate or very unequally 3-foliolate leaves, and with nearly equal 3-foliolate leaves, may be found on different branches of the same specimen.

5. **L. punctata,** *Benth. in Lindl. Swan Riv. App.* 15. An undershrub, with ascending or erect almost simple stems, of 1 to 1½ ft., more or less flattened and usually glabrous. Leaves all simple, the lower ones sometimes ovate, 1 to 2 in. long, the upper ones lanceolate or linear, attaining often 4 or 5 in., coriaceous, reticulate and scabrous above, with minute dots, which however are often visible in some other species, glabrous or slightly pubescent underneath. Racemes very short and several-flowered. Sepals 4, about 4 lines long, the outer ones concave and rather acute, the inner more petal-like. Petals 4, rather longer than the calyx. Anthers both of the same size. Ovary slightly pubescent, with 2 ovules. Pod not seen.—Meissn. in Pl. Preiss. i. 24.

W. Australia. Swan River and Darling Range, *Collie, Drummond*, 1*st Coll. and* 2*nd Coll. n.* 279, *Preiss, n.* 1025, 1026; Harvey River, *Oldfield.*

82. TAMARINDUS, Linn.

Sepals 4, united at the base into a turbinate tube, the free portion or segments much imbricate. Petals 3, the lateral ones ovate, the upper inner one narrower, concave. Stamens incurved, united in a sheath to the middle, 3 or rarely 2 only perfect, with ovate anthers, 4 or 5 others reduced to short teeth at the top of the sheath. Ovary stipitate, with several ovules; style inflexed, rather thick, with a truncate stigma. Pod linear or oblong-linear, curved, thick, but slightly compressed, the epicarp crustaceous and fragile, the mesocarp pulpy, the endocarp thick and fleshy, forming complete partitions between the seeds. Seeds broadly obovate, flattened; testa rather thick; albumen none; embryo straight, with a short radicle.—Tree. Leaves abruptly pinnate. Flowers in terminal racemes.

The genus contains only one species, widely spread over tropical regions.

1. **T. indicus,** *Linn.; DC. Prod.* ii. 488. A hard-wooded tree, with a spreading head and a pale or glaucous glabrous foliage. Leaflets 10 to 20 pairs, oblong-linear, obtuse, ½ to ¾ in. long. Stipules small, deciduous. Flowers yellow, the racemes short and loose, really terminal, but usually on very short branchlets so as to appear lateral and shorter than the leaves. Bracts very deciduous. Calyx-segments about 4 lines long. Petals rather longer. Pod about 1 in. broad, varying in length according to the number of seeds ripened, usually 2 or 3.

N. Australia. On the cliffs at the entrance to Victoria river, *F. Mueller* (fruits only); Port Essington, *Leichhardt* (fragments of a raceme). Common, wild or cultivated, in tropical Asia and Africa, and introduced into the West Indies. This tree supplies the well-known *Tamarinds*, used as conserves and in medicine. The Australian specimens being fragmentary only, I have described it from Indian ones.

83. BAUHINIA, Linn.

Sepals united at the base into a short or long disk-bearing tube, the free part separating into 5 or fewer valvate or induplicate lobes. Petals 5, in-

serted at the summit of the tube, usually clawed, more or less unequal. Stamens 10, free, either all perfect or some reduced to small staminodia. Ovary stipitate, the stalk adnate to one side of the calyx-tube, with several ovules; style usually filiform, with a capitate, broad or oblique, terminal stigma. Pod linear or oblong, compressed, 2-valved. Seeds compressed; albumen usually thin; radicle short and straight.—Trees or woody climbers. Leaflets either 2 distinct from the base, or (in the majority of species not Australian) united into an entire or 2-lobed leaf, with 5 to 11 digitate nerves. Racemes terminal.

A large genus, distributed over the tropical regions of the New and the Old World. It has been divided into several genera, which I have in other works been disposed to adopt; but it may be more convenient to follow De Candolle and others in considering them as subgenera. The following Australian species, all endemic, with one or two nearly allied Asiatic ones, form a small group, with the 2 leaflets quite distinct, and in their flowers and fruit agreeing with *Phanera*, except that the 10 stamens are all perfect.

Calyx disk-bearing base very short, free part campanulate, deeply lobed. Outer petals 5 to 6 lines long. Pod 2 in. broad . . .	1. *B. Cunninghamii.*
Calyx disk-bearing base turbinate, free part as long, shortly lobed. Petals 6 or 7 lines long. Pod not $1\frac{1}{2}$ in. broad	2. *B. Carronii.*
Calyx disk-bearing base cylindrical, free part as long, divided to the base. Outer petals $1\frac{1}{2}$ in. long. Pod 1 to $1\frac{1}{4}$ in. broad . . .	3. *B. Hookeri.*

1. **B. Cunninghamii,** *Benth.* A tree of 20 ft. or more, the young branches slender, rarely short and spinescent, the young shoots and leaves pubescent, at length glabrous. Leaflets quite distinct, broadly falcate-ovate, very obtuse, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long, and more than half as broad, finely 5- to 7-nerved. Flowers 2 or 3 together on a very short common peduncle, the pedicels shorter than the calyx. Calyx about 5 lines long, velvety-tomentose, the disk-bearing base very short and broad, the free part broadly campanulate, thick, divided below the middle into 5 ovate equal lobes. Petals silky-tomentose, ovate, the 2 outer lower ones exceeding the calyx by above 3 lines, the lateral ones by about 2 lines, and the uppermost inner one scarcely at all. Stamens 10, longer than the petals, the lowest the longest. Ovary on a long stipes, with 8 to 10 ovules; stigma large, capitate. Pod very flat, thinly coriaceous, about 2 in. broad, 6 in. long or shorter, according to the number of seeds ripened.—*Phanera Cunninghamii*, Benth. in Pl. Jungh. i. 264; *Bauhinia Leichhardtii*, F. Muell. in Trans. Vict. Inst. iii. 50, partly.

N. Australia. Careening Bay and Vansittart Bay, *A. Cunningham*; N.W. coast, *Bynoe*; Oakover river, Nichol Bay, *F. Gregory's Expedition*; Arnhem's Land, *F. Mueller.*

2. **B. Carronii,** *F. Muell. in Trans. Vict. Inst.* iii. 49. A tree, with the foliage and inflorescence of *B. Cunninghamii*, or with rather narrower leaflets, but undistinguishable without the flowers or fruit, both of which are narrower. Calyx slightly tomentose, about $\frac{1}{2}$ in. long, the disk-bearing base narrow-turbinate, the free portion about the same length, very shortly 5-lobed. Petals obovate, silky outside, the lower ones exceeding the calyx by about 5 lines, the others rather shorter. Stamens and pistil of *B. Cunninghamii.* Pod coriaceous, not quite $1\frac{1}{2}$ in. broad, the valves coriaceous, slightly convex when ripe.

Queensland. On the Burdekin, *F. Mueller*; in the interior, *Mitchell.*
N. S. Wales. Towards Cooper's Creek, *Howitt's Expedition.*

Some specimens of Leichhardt's, in leaf only and therefore not determinable, referred by F. Mueller to the preceding species, appear to me rather to belong to the present one.

3. **B. Hookeri,** *F. Muell. in Trans. Vict. Inst.* iii. 51. A large tree, with a spreading head, usually quite glabrous. Leaflets quite distinct, very obliquely and broadly ovate or obovate, very obtuse, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long, finely 5- to 7-nerved, with a small thick point terminating the petiole between them. Flowers white, edged with crimson, few in short terminal racemes, the pedicels very short. Calyx glabrous or nearly so, 1 in. long or even more, the disk-bearing base narrow-cylindrical, the free part about as long, dividing nearly to the base into 5 narrow lobes. Petals clawed, ovate, nearly equal, the lamina nearly $1\frac{1}{2}$ in. long, slightly villous outside near the base. Stamens 10, rather longer than the petals. Ovary on a long stipes; stigma large. Pod stipitate, flat, 1 to $1\frac{1}{4}$ in. broad.

N. Australia. Arnhem N. Bay, *R. Brown*; Port Essington, *A. Cunningham.*

Queensland. Broad Sound, *R. Brown*; Gilbert river, *F. Mueller*; Suttor river, *D'Orsay*; Rockhampton, *Dallachy*; islands of Torres Straits, *Henne.*

Var. *puberula.* Young shoots slightly pubescent. Calyx tomentose, the free part shorter than the disk-bearing base. Pod large and broad.—Burdekin river, *F. Mueller.*

The latter specimens come very near to *B. (Phanera) Blancoi*, Benth. in Pl. Jungh. i. 264, which we have from Siam and from the Philippine Islands, and of which *B. Hookeri* may prove to be a variety only.

84. CYNOMETRA, Linn.

Sepals very shortly united at the base, the free part separating into 4 imbricate segments, the upper one rather broader (consisting of 2 sepals?). Petals 5, oblong-lanceolate, nearly equal, the upper one innermost. Stamens 10 or more, free; filaments filiform; anthers small. Ovary nearly sessile, with 2 ovules; style subulate, with a small terminal stigma. Pod obliquely and broadly semiorbicular, thick, fleshy, and turgid, 2-valved. Seed usually solitary, thick; radicle short, straight. Trees or shrubs. Leaves abruptly pinnate, with 1, 2, or rarely more pairs of leaflets. Flowers small, usually reddish, in axillary or lateral clusters or short racemes.

The genus is distributed over the tropical regions of the New and the Old World. The only Australian species is a common Asiatic one.

1. **C. ramiflora,** *Linn.*; *DC. Prod.* ii. 509, var. *bijuga.* A tree, either glabrous or the young shoots and inflorescence rusty-pubescent. Leaflets in the Australian specimens 2 pairs or rarely 1 pair only, obliquely obovate-oblong, very obtuse or shortly and obtusely acuminate, coriaceous, penniveined, the terminal ones 2 to 3 in. long, the lower ones smaller. Flowers in very short axillary racemes or clusters. Bracts dry, concave, at first imbricate, but very deciduous. Pedicels 2 to 3 lines long. Calyx and petals not 2 lines long. Stamens 10, rather longer. Ovary very villous. Fruit as broad as long, very thick and fleshy, $\frac{1}{2}$ to $\frac{3}{4}$ in. long and very rugose in the dried specimens, probably larger and smoother when fresh.—W. and Arn. Prod. i. 293; *C. bijuga*, Spanoghe, in Miq. Fl. Ind. Bat. i. part i. 78.

Queensland. Endeavour river, *Banks and Solander*, *A. Cunningham.*—Widely spread over E. India and the Archipelago, most frequently with 2 pairs of leaves in Ceylon and the Archipelago, with one pair only on the continent of India, but the two can scarcely be distinguished, even as varieties.

SUBORDER III. MIMOSEÆ.

Flowers 5-merous, 4-merous, or rarely 3-merous or 6-merous, small, regular, sessile in spikes or heads or very rarely shortly pedicellate, often polygamous. Sepals valvate, often united. Petals valvate, except in *Erythrophlœum*, often united. Stamens equal to or double the number of petals or indefinite. Seeds usually flattened, with a hard shining testa. Albumen none or very scanty. Radicle of the embryo short and straight. Leaves bipinnate, except in the American genus *Inga*.

The genera of this well-marked suborder are not numerous in proportion to the species, and are technically distributed into four tribes:—*Parkieæ*, with definite stamens and slightly imbricate petals, including *Erythrophlœum*; *Eumimoseæ*, with definite stamens, including *Entada*, *Adenanthera*, *Dichrostachys*, and *Neptunia*; *Acacieæ*, with indefinite free stamens, consisting chiefly of the vast genus *Acacia*; and *Ingeæ*, with indefinite monadelphous stamens, including *Albizzia* and *Pithecolobium*.

85. ERYTHROPHLŒUM, Afzel.

(Fillæa, *Guillem. and Perr.*; Laboucheria, *F. Muell.*)

Calyx-teeth 5, valvate in the bud. Petals 5, small, very slightly imbricate. Stamens 10, inserted with the petals on a perigynous disk, free, longer than the petals, all equal and perfect; anthers ovate, without glands. Ovary stipitate, with several ovules; style short, with a terminal stigma. Pod oblong, linear, flat, coriaceous, 2-valved. Seeds ovate, compressed, transverse; funicle filiform; testa pulpy outside; albumen thin; radicle short, straight. Trees. Leaves bipinnate. Flowers small, almost sessile in long cylindrical spikes, forming a terminal panicle. Bracts inconspicuous.

A small genus, containing, besides the Australian species, which is endemic, two or three from tropical Africa. In the slight imbrication of the petals it approaches *Cæsalpinieæ*, and especially *Mora*, and may be considered, with *Parkia*, as intermediate between that suborder and true *Mimoseæ*.

1. **E. Laboucherii,** *F. Muell. Herb.* A hard-wooded tree, the branches and foliage glabrous. Pinnæ opposite, in 2 or 3 pairs; leaflets 4 to 9, alternate, obliquely obovate or orbicular, very obtuse or retuse, mostly 1½ to 2 in. long. Spikes rather dense, nearly sessile, 1 to 3 in. long. Flowers 2 to 2½ lines long. Calyx sprinkled and ciliate with a few hairs. Petals rather longer than the calyx, with woolly edges. Stamens more than twice as long as the petals, distinctly inserted in 2 rows. Ovary shortly stipitate, hairy, with about 10 ovules. Pod 4 to 6 in. long, 1 to 1½ in. broad, flat, with thinly-coriaceous valves. Seeds nearly orbicular.—*Laboucheria chlorostachys*, F. Muell. in Journ. Linn. Soc. iii. 159.

N. Australia. Careening Bay and Vansittart Bay, N.W. coast, *A. Cunningham*; Victoria river, *Bynoe*, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; Strangways river, *M'Douall Stuart*.

Queensland. Endeavour river, *Banks and Solander*, *A. Cunningham*; Burdekin and Gilbert rivers, *F. Mueller*; also in Leichhardt's collection, and said to be his "Leguminous Iron-bark Tree."

86. ENTADA, Adans.

Calyx very shortly 5-toothed. Petals 5, valvate, more or less united or free. Stamens 10, shortly exserted, free; anthers tipped by a gland. Ovary nearly sessile, with several ovules; style filiform, with a truncate stigma. Pod large and long, flat, coriaceous or woody, the sutures thick and forming a persistent replum, the valves falling away separately and divided transversely into 1-seeded articles, the endocarp separating from the epicarp and persisting round the large orbicular flat seeds.—Tall woody climbers, unarmed. Leaves abruptly bipinnate, the pinnæ of the upper pair often converted into tendrils without leaflets. Flowers small, sessile in long slender spikes, either solitary in the upper axils or forming a terminal simple panicle. Bracts very small.

The genus is common to the New and the Old World within the tropics. The only Australian species is the same as the most generally diffused Asiatic one.

1. **E. scandens,** *Benth. in. Hook. Journ. Bot.* iv. 332. A woody climber, stretching over the largest trees, the young parts and inflorescence slightly pubescent, at length glabrous. Leaves usually consisting of a common petiole of 2 to 6 in., terminating in 2 simple tendrils, which are not however always developed, and bearing below them 1 or 2 pairs of pinnæ; leaflets on each pinna 2 or 3 rarely 4 or even 5 pairs, obovate-oblong obtuse or emarginate, often very oblique, 2 to 5 in. long when few, smaller when more numerous. Spikes varying in length from 1 or 2 in. to nearly 1 ft. Flowers about 1½ in. long. Calyx very small, truncate or minutely toothed. Petals lanceolate, rigid, becoming at length quite separate. Gland of the anthers very deciduous. Pod woody, attaining 2 to 4 ft. in length and 3 to 4 in. in breadth. Seeds 10 to 30, nearly 2 in. diameter.—*Mimosa scandens*, Linn. Sp. Pl. 1501; *Entada Pursætha*, DC. Prod. ii. 425; Miq. Fl. Ind. Bat. i. part i. 45.

Queensland. Cape York, *M'Gillivray*, small specimens in flower and leaf only, the description completed from Indian ones. The species is widely diffused over tropical Asia and Africa and the West Indies, the seeds being carried very far by ocean currents without losing their power of germination. The opinion now generally adopted that the East and West Indian species are the same is, however, not universally admitted; and our herbarium specimens, numerous as they are, are mostly too imperfect, the foliage, flowers, and pods too rarely matched to determine the question with any approach to certainty.

87. ADENANTHERA, Linn.

Calyx 5-toothed. Petals 5, valvate in the bud, cohering at first, at lengt free. Stamens 10, free; anthers ovate, tipped by a deciduous gland. Ovary sessile, with several ovules; style filiform, with a small terminal stigma. Pod linear, compressed, falcate, 2-valved, the endocarp often forming more or less complete partitions between the seeds; valves somewhat convex. Seeds thick, with a hard, shining, red or red-and-black testa, surrounded usually by a thin pulp; funicle slightly thickened; albumen scanty; radicle short, straight.—Unarmed trees. Leaves abruptly bipinnate, with several pairs of pinnæ and of leaflets. Flowers small, white or yellowish, always pedicellate in long spike-like racemes, either solitary in the axils or forming a simple terminal panicle.

A genus of few species, natives of the tropical regions of the Old World, one of them introduced and now naturalized in the West Indies. It is closely allied to *Prosopis* and several others separated from *Mimosa* and *Acacia*, differing chiefly in the pedicellate flowers and in the seeds resembling those of *Ormosia*, and externally those of *Abrus*, and the original *A. pavonina*, Linn., has moreover a remarkably long twisting pod.

Fragments of a plant evidently belonging to this genus, but insufficient for determination, are in F. Mueller's collection from Gilbert river. One imperfect leaf is like that of *A. pavonina*, but with it are two loose pods which I can only compare with those of a Borneo plant in the Kew herbaria. They are short, slightly falcate, and the seeds more like those of the Cingalese *A. bicolor*, which, however, has very different leaves.

88. DICHROSTACHYS, W. and Arn.

(Caillea, *Guillem. and Pers.*)

Calyx 5-toothed. Petals 5, valvate, usually cohering. Stamens in the perfect flowers 10, free; anthers ovate, tipped with a deciduous gland. Ovary nearly sessile, with several ovules; style short or filiform, with a small terminal stigma. Lower flowers of the spike neuter, with long, linear, white or coloured staminodia, and a small rudimentary ovary. Pod linear, compressed, variously twisted, indehiscent or the valves irregularly separating from the persistent sutures.—Rigid shrubs, the branchlets occasionally spinescent. Leaves abruptly bipinnate, with a stipitate gland between the pinnæ of the lowest or of all the pairs; leaflets small. Stipules subulate or acuminate, often imbricate on the short flowering branches. Flowers sessile, in dense cylindrical spikes, either terminal or apparently axillary by the shortness of the branchlet, the upper flowers of the spike hermaphrodite and yellow, the lower ones neuter and white pink or purple.

The genus extends over tropical Africa and Asia. Of the Australian species one is the common Indian one, the other is endemic. F. Mueller proposes to reunite it with *Neptunia*, but the difference in the pod is accompanied by too marked a difference in habit to be neglected, unless the whole of the *Mimoseæ* with definite stamens and gland-tipped anthers be united into one genus.

Pinnæ 8 to 10 pairs. Leaflets 12 to 20 pairs	1. *D. cinerea.*
Pinnæ 1 or 2 pairs. Leaflets 4 to 6 pairs	2. *D. Muelleri.*

1. **D. cinerea,** *W. and Arn. Prod.* 271. Glabrous or the branches and petioles pubescent. Pinnæ 8 to 10 pairs, ½ to 1 in. long; leaflets 12 to 20 pairs, crowded, oblong-linear, slightly falcate, 1 to 1½ or rarely 2 lines long. Spikes shortly pedunculate, usually nodding, about 1 in. long. Hermaphrodite flowers about 1 line long without the stamens, which are twice or thrice as long. Staminodia of the neuter flowers still longer and white. Pod 2 to 3 in. long, 3 to 4 lines wide, irregularly twisted, viscid-pubescent or glabrous.—Wight, Ic. t. 357.

N. Australia. Port Essington, *Armstrong.* Extends over E. India and the Archipelago.

2. **D. Muelleri,** *Benth.* Glabrous or slightly pubescent. Pinnæ 1 or 2 pairs, rather distant; leaflets 4 to 6 pairs, oblong-linear, 3 to 5 lines long, rather coriaceous and pale-coloured. Spikes pedunculate, about 1½ in. long. Hermaphrodite flowers about 1 line long without the stamens. Neuter flowers in the lower part of the spike not so crowded as the others, with long pale whitish-purple staminodia.—*Neptunia spicata*, F. Muell. Fragm. iii. 151.

N. Australia. Arnhem's Land, *Waterhouse in M'Douall Stuart's Expedition.*

89. NEPTUNIA, Lour.

Calyx 5-toothed. Petals 5, valvate in the bud, cohering or free. Stamens in the perfect flowers 10 or (in the Australian species) 5, free; anthers ovate, tipped with a deciduous gland, very rarely wanting; pollen granular. Ovary stipitate, with 2 or several ovules; style filiform, with a truncate or concave stigma. Lower flowers of the head male or more frequently neuter, with long linear staminodia. Pod short and broad, flat, turned downwards, 2-valved, without pulp inside. Seeds transverse, flattened, ovate or orbicular, the funicle not dilated.—Procumbent or floating perennials or undershrubs. Leaves abruptly bipinnate, with small leaflets, either without glands or with a depressed gland below the pinnæ. Stipules membranous, obliquely cordate. Peduncles axillary, usually with 2 distant stipule-like deciduous bracteoles, and bearing a single globular or ovoid flower-head. Flowers small, sessile, mostly hermaphrodite, but a few of the lower ones either like the others but male by the abortion of the ovary, or neuter with a smaller calyx and corolla, and long linear almost petal-like staminodia.

A small genus, widely diffused over the tropical regions of the New and the Old World, extending also into N. America. The two Australian species are endemic, and differ from all others in their stamens always 5 only instead of 10.

Peduncles slender, 1 to 3 in. long. Ovules several. Pod oblong, with several seeds . . . . 1. *N. gracilis.*
Peduncles very short. Ovules 2. Pod orbicular, 1-seeded . . . . 2. *N. monosperma.*

1. **N. gracilis,** *Benth. in Hook. Journ. Bot.* iv. 355. Stock perennial, often woody, with procumbent or ascending stems of about 1 ft. or rarely twice as long, glabrous or slightly pubescent. Pinnæ usually 1 or 2 pairs; leaflets 6 to 20 pairs, oblong-linear, falcate, 2 to 3 or rarely 4 lines long; glands none in the ordinary form, but small setaceous stipellæ under the pinnæ. Stipules leafy, obliquely cordate, acuminate. Peduncles 1 to 3 in. long, with 2 broad cordate bracteoles, one about the middle, the other much lower down, both very deciduous. Flower-head small, globular, with very few of the male or neuter flowers at the base and sometimes none at all. Hermaphrodite flowers smaller than in the extra-Australian species, always with 5 stamens only and few or sometimes none of the neuter ones at the base of the head. Gland of the anthers small, sometimes perhaps quite wanting. Ovules 6 to 8. Pod, when perfect, ¾ in. long, about 4 lines wide, with 4 to 6 seeds.

N. Australia. Islands of the N. coast, *R. Brown.*

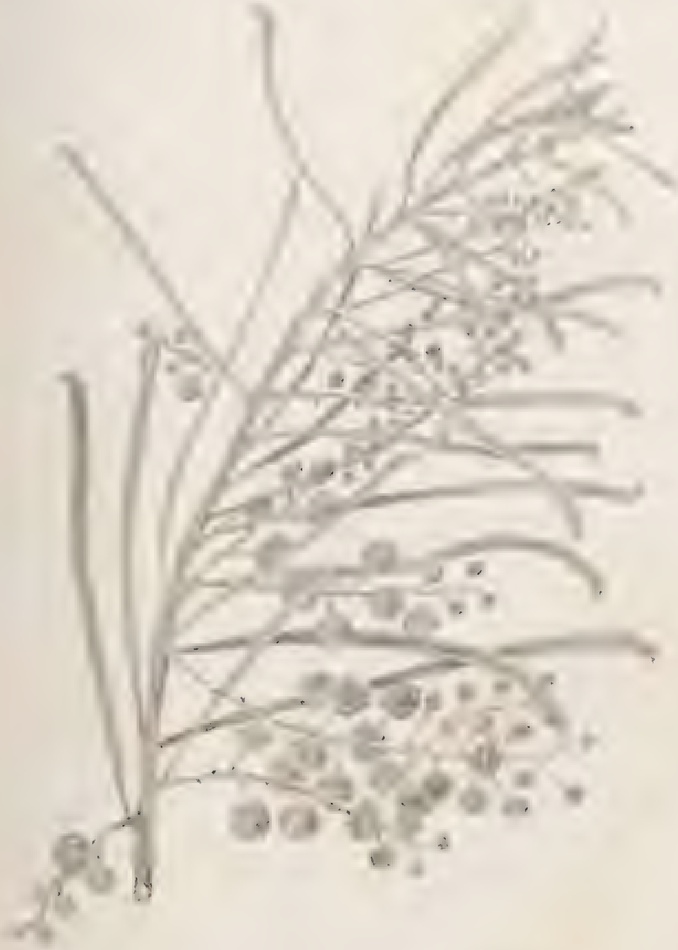
Queensland. Shoalwater Bay and Broad Sound, *R. Brown;* Moreton Bay, *C. Stuart;* near Warwick, *Beckler;* in the interior, on the Maranoa, etc., *Mitchell, Leichhardt,* and others.

N. S. Wales. Between the Darling and Cooper's Creek, *Neilson.*

Var. *major.* Larger and more erect. Leaves with a depressed gland below the lowest pair of pinnæ, but less conspicuous than in *N. monosperma.* Flowers rather large.—Bay of Inlets, *Banks and Solander;* Rockhampton and Burdekin river, *Herb. F. Mueller.*

Var. *villosula.* More or less pubescent. Pinnæ 3 or 4 pairs, without glands. Flower-heads rather large.—Sturt's Creek, *F. Mueller;* Gulf of Carpentaria, *Landsborough;* also *Neilson's* N. S. Wales specimens.

2. **N. monosperma,** *F. Muell. Herb.* Stems apparently herbaceous, but stouter and taller than in *N. gracilis* (except perhaps in the var. *major*).



Acacia Harveyi Vol 2. p369

Pinnæ 2 or 3 pairs; leaflets 20 to 30 pairs, mostly 3 to 5 lines long; gland large, depressed below the lowest pair of pinnæ. Stipules and bracteoles very much smaller than in *N. gracilis* and very deciduous. Peduncles very short, rarely exceeding ½ in. Flowers small, all with 5 stamens only, with very few or scarcely any of the neuter ones at the base of the head. Ovules always 2 only. Pod nearly orbicular, 3, 4, or rarely 5 lines diameter, with a single seed.

N. Australia. Upper Victoria river, *F. Mueller*; Gulf of Carpentaria, *Landsborough*, *Henne*.

Queensland, *Bowman*.

90. ACACIA, Willd.

(Vachellia, *W. and Arn.*; Tetracheilos, *Lehm.*; Chithonanthus, *Lehm.*)

Sepals 5, 4, or 3, free or united (wanting in *A. Huegelii* and *A. squamata*). Petals as many, free or united (wanting in *A. squamata*). Stamens indefinite, usually very numerous, free or slightly connected at the very base. Pod linear or oblong, flat or nearly cylindrical, straight, falcate or variously twisted, opening in 2 valves or indehiscent. Seeds more or less flattened, usually marked in the centre of each face with an oval or horseshoe-shaped depression or opaque spot or ring, sometimes very obscure. Funicle usually thickened into a fleshy aril under or round the seed.—Trees, shrubs, climbers, or rarely undershrubs, with or without prickles or stipular spines. Leaves twice pinnate or reduced to a simple phyllodium or dilated petiole. Flowers usually yellow or white, in globular heads or cylindrical spikes, often polygamous.

A very large genus, dispersed over the warmer regions of the globe, and in Australia the most numerous in species of all Phænogamous genera. Of the Australian species, one only, *A. Farnesiana*, is common to the warmer regions of the New and the Old World, the remainder are all endemic. Of these by far the greater number belong to the phyllodineous series, which is entirely Australian, with the exception of a very few from New Caledonia, the Indian Archipelago, and the Pacific Islands, none of which can be specifically identified with any Australian ones, although very near some of the tropical species. Acacias are also very generally distributed over every part of Australia, but are entirely absent from New Zealand.

Taken as a whole, the genus is the most marked of those which have been dismembered from the Linnæan *Mimosa*, being at once distinguished from *Inga* and its allies by the free stamens, and from the true *Mimoseæ* by their indefinite number; but, for its subdivision, notwithstanding considerable differences in the flowers and more striking ones in the fruit, it has been found impossible to establish upon these differences any definite sections, even among those species where both flowers and fruit are well known, and in the majority of specimens gathered, the pod is neglected by collectors. Species with the most discrepant pods are sometimes almost identical in foliage, and, on the other hand, pods apparently identical, sometimes belong to species widely different in foliage and even in flower. I have therefore on each of the three occasions when I have gone through the genus in detail, with a large number of specimens before me, in vain sought for any better mode of distributing the species than in *Series*, founded chiefly upon foliage and inflorescence. There are only one or two species in which the cylindrical spike appears to pass into the globular head, and the venation of the phyllodia is nearly, though not quite, as constant. The glands on the upper edge of the phyllodia and on the common petiole in the compound leaf seldom afford even a specific distinction, and the bracts in the flower-head still less so, and I have therefore in the descriptions seldom mentioned them. The bracts are almost always narrow, closely packed in with the flowers, and more or less dilated at the end, sometimes quite peltate; generally the outer ones of each head are flatter, the inner ones more slender and proportionally more dilated at the end, where they are usually ciliate and sometimes acuminate. The characters derived from the united or free sepals must be used with caution, for the sepals, at first united, often separate as the flowering advances. The forms assumed by the pod are tolerably constant in species, although rarely available for classing them in groups; so it is also with the seeds, transverse or longitudinal, and with the infinite variety of forms assumed by the funicle. This funicle on the ripe seed rarely remains short and filiform, it almost always forms two or three folds under the seed, the end of the last fold or the whole of the last and more or less of the lower folds being thickened into a variously-shaped small fleshy aril, usually described as a strophiole, but always a part of the funicle and continuous with the lower filiform part, or forming the whole funicle; occasionally the thickened part is much elongated extending round one side of the seed, returning on the same side and forming another double fold on the other side, or completely encircling the seed in a double fold returning on the same side, or extending twice round without a return, or even encircling it in a triple fold. All these and other modifications appear to be constant in each species, but only rarely available for specific diagnosis, for in many species the funicle is as yet unknown; it is often unsafe to rely on it unless the seed is quite ripe, and then the thin part of the funicle is so brittle that it is often destroyed merely by the elastic opening of the pod.

Leaves all or mostly reduced to flat terete or subulate phyllodia or minute scales without leaflets. (**Phyllodineæ.**)

- Flowers in globular heads.
  - Phyllodia none or reduced to minute scales.
    - Branches spinescent . . . . 11. *A. spinescens.*
    - Branches rush-like, not spinescent . . . . IV. CALAMIFORMES.
  - Phyllodia (either small and tooth-like or vertically flattened or elongated) decurrent on or continuous with the branches.
    - Branches flat or 2-winged by the decurrent phyllodia . . . I. ALATÆ.
    - Branches 3-winged or the phyllodia (usually pungent) very shortly or scarcely decurrent, but not articulate . . . . II. CONTINUÆ.
  - Phyllodia articulate on the stems, at least when old.
    - Phyllodia rigid, tapering into pungent straight points, usually narrow or short, not whorled (except in 43, *A. verticillata*) III. PUNGENTES.
    - Phyllodia linear-subulate, terete or tetragonous, rarely slightly flattened, obtuse or with incurved or innocuous points, not whorled . . . . IV. CALAMIFORMES.
    - Phyllodia terete or slightly flattened, usually short, all whorled or crowded and irregularly whorled or clustered . . . . V. BRUNIOIDEÆ.
    - Phyllodia vertically flattened, broader than thick, obtuse acute or with incurved or innocuous points.
      - Phyllodia 1-nerved, the veins pinnate, reticulate or rarely 1 or 2 secondary small nerves from the base on one side of the midrib . . . . VI. UNINERVES.
      - Phyllodia with 2, 3 or more parallel nerves . . . . . . VII. PLURINERVES.
- Flowers in cylindrical or oblong spikes.
  - Phyllodia rigid, tapering into pungent points.
    - Phyllodia several-nerved, decurrent on the stem . . . . 10. *A. triptera.*
    - Phyllodia 1- or 3-nerved, articulate on the stem . . . . . . III. PUNGENTES.
  - Phyllodia obtuse or with a callous, innocuous or hooked point . VIII. JULIFLORÆ.

Leaves all bipinnate. Flowers in globular heads or rarely in spikes. (**Bipinnatæ.**)

- Stipules none or brown and scarious. Spines none or axillary.
  - Flower-heads several, in axillary or paniculate racemes . . . IX. BOTRYOCEPHALÆ.
  - Flower-heads or spikes single, on axillary solitary or clustered peduncles . . . . X. PULCHELLÆ.
- Stipules all or some of them spinescent. Flower-heads single on axillary peduncles . . . . XI. GUMMIFERÆ.

Div. I. *PHYLLODINEÆ.*—Leaves mostly phyllodineous without leaflets.

Series I. **Alatæ.**—*Phyllodia bifariously decurrent, forming 2 opposite wings to the stem, the free part short, broad, and acute, or rigid and pungent-pointed. Flowers in globular heads, on axillary simple peduncles, rarely appearing racemose by the reduction of the flowering branches.*

Wings broad, continuous with the next below, removing the axillary bud to a distance from the stem . . . . 1. *A. bossiæoides.*
Wings interrupted at each node, the axillary bud sessile on the stem.
Wings broad, free part of the phyllodia usually short and broad, with an almost central nerve.
Phyllodia without glands. Flowers numerous in a small compact head . . . . 2. *A. glaucoptera.*
Phyllodia with a glandular angle on the upper edge. Heads 6 to 12-flowered . . . . 3. *A. alata.*
Wings narrow, free part narrow or with the nerve almost marginal.
Phyllodia erect, incurved. Flowers numerous in the head, 5-merous. Petals smooth . . . . 4. *A. diptera.*
Phyllodia rigid, recurved. Flowers few in the head, 4-merous. Petals strongly striate . . . . 5. *A. stenoptera.*

Series II. **Continuæ.**—*Phyllodia narrow, rigid, tapering into a pungent point, continuous with the stem and shortly and trifariously or irregularly decurrent. Flowers in heads or spikes on axillary simple peduncles.*

Flowers in globular heads.
Phyllodia linear or linear-lanceolate, flattened, 1-nerved.
Heads nearly sessile, with 4 to 8 flowers . . . . 6. *A. incurva.*
Heads pedunculate, compact, with above 40 flowers . . . 7. *A. trigonophylla.*
Phyllodia terete, very shortly decurrent.
Lower phyllodia 1 to 2 in. long, upper ones short and distant. Pod curved or twisted, about 2 lines broad . . . . . . 8. *A. continua.*
Phyllodia crowded on the branchlets, slender and rigid, 2 to 4 in. long. Pod nearly 1½ in. broad . . . . 9. *A. Peuce.*
Flowers in cylindrical spikes. Phyllodia lanceolate, thick, several-nerved . . . . 10. *A. triptera.*

(106, *A. anceps*, has some of the phyllodia only half articulate on the angles of the stem, and 59, *A. extensa*, has the branches often narrowly winged, with phyllodia scarcely to be distinguished from them.)

Series III. **Pungentes.**—*Rigid shrubs, branches in some species spinescent. Phyllodia articulate on the stem, rigid, tapering into pungent points, subulate, linear or lanceolate, or rarely none. Flowers in heads or spikes, on axillary simple peduncles.*

(Besides the following species, a few of the short-leaved *Calamiformes* and of the small rigid-leaved *Plurinerves* might almost be classed among the *Pungentes.*)

A. **Aphyllæ.**—*Phyllodia none. Branches spinescent. Heads globular, sessile* . . . . 11. *A. spinescens.*

B. **Plurinerves.**— *Phyllodia 2- or more nerved, or terete and nerveless. Heads globular.*

Phyllodia falcate, not exceeding ½ in. (See Series VII. *Plurinerves.*)
Phyllodia linear-lanceolate, 3- or more nerved. Petals smooth or with prominent midribs.
Sepals distinct, narrow, spathulate (Western species except *A. Oswaldi*).
Phyllodia attached by a broad base, very rigid and pungent . 12. *A. latipes.*
Phyllodia slightly contracted at the base, very rigid and pungent 13. *A. cochlearis.*
Phyllodia linear-lanceolate, with 3 prominent nerves, scarcely pungent. Petals without prominent midribs . . . . 177. *A. heteroclita.*

Phyllodia rigid, but scarcely pungent, several-nerved. Flower-heads almost sessile (Eastern species) . . . . 184. *A. Oswaldi.*

Sepals united (Eastern or tropical species).

Seeds longitudinal (extratropical species).

Peduncles short. Pod 4 to 5 lines broad. Branches usually woolly . . . . 14. *A. lanigera.*

Peduncles slender. Pod 1 to 2 lines broad . . . . . 16. *A. trinervata.*

Seeds obliquely transverse. Branches glabrous, somewhat viscid (tropical species) . . . . 15. *A. phlebocarpa.*

Phyllodia nearly terete, striate with several nerves or nerveless. Petals smooth.

Stipules lanceolate, small and very deciduous.

Phyllodia divaricate, straight or slightly incurved. Peduncles very short. Petals narrow, with raised midribs . . . . 17. *A. colletioides.*

Phyllodia straight, short, with not more than 2 nerves. Peduncles very short. Petals smooth . . . . 34. *A. sphacelata.*

Phyllodia divaricate, straight or recurved. Peduncles as long as or longer than the heads. Petals with raised midribs . 18. *A. striatula.*

Phyllodia crowded, incurved, mostly under 1 in. Petals without raised midribs . . . . 21. *A. sulcata.*

Stipules setaceous or spinescent.

Stipules slender. Phyllodia divaricate, recurved or flexuose. Pod flat, with raised margins . . . . 19. *A. campylophylla.*

Stipules rigidly spinescent. Phyllodia erect, almost obtuse, with short pungent points. Petals concave and thickened at the top . . . . 20. *A. teretifolia.*

Phyllodia linear or lanceolate, recurved, with 2 thick marginal or nearly marginal nerves. Stipules setaceous or spinescent.

Petals striate.

Phyllodia mostly ¼ in. long, rather broad . . . . 22. *A. costata.*

Phyllodia ½ to 1 in. long, narrow . . . . 23. *A. barbinervis.*

Phyllodia 1 to 2 in. long, very narrow, with hooked points . 24. *A. ataxiphylla.*

Petals smooth. Phyllodia ½ to 1 in., rather broad . . . . 25. *A. Baxteri.*

Phyllodia subulate, terete, finely striate. Heads sessile, ovoid. Flowers 5-merous . . . . 228. *A. aciphylla.*

C. **Uninerves.**—*Phyllodia* 1-*nerved. Heads globular.*

Petals prominently striate. Pod thick, with broad smooth margins. Flowers 5-merous.

Phyllodia crowded, under ½ in. long, obliquely oblong-lanceolate, often falcate . . . . 26. *A. auronitens.*

Phyllodia scattered, ¾ to 1½ in. long, linear-tetragonous . . . 27. *A. quadrisulcata.*

Petals membranous, smooth or with a prominent midrib.

Flowers mostly 5-merous.

Phyllodia oblong-lanceolate, under ½ in. long. Branches spinescent, woolly . . . . 28. *A. erioclada.*

Phyllodia linear or lanceolate, broader than thick.

Pod 2½ to 3 lines broad, not contracted between the seeds when perfect (E. and S. species) . . . . 29. *A. siculiformis.*

Pod 1½ lines broad, regularly contracted between every seed (N.W. species) . . . . 30. *A. patens.*

Phyllodia linear-subulate, acicular or 4-gonous.

Phyllodia mostly recurved. Branches tomentose. Peduncles slender. Heads small. Pod-valves very convex, striate 31. *A. laricina.*

Phyllodia straight, clustered at the old nodes. Peduncles slender. Funicle encircling the seed . . . . 32. *A. tetragonophylla.*

Phyllodia straight, often numerous, but not clustered. Peduncles very short . . . . 34. *A. sphacelata.*

Phyllodia scattered, erect or slightly spreading, often 1 in. long. Peduncles slender, mostly clustered . . . . . 33. *A. genistoides.*
Phyllodia scattered, divaricate, rather broader or with a small glandular angle at the base.
Petals without any prominent nerve. Peduncles slender 35. *A. ingrata.*
Petals with a prominent midrib. Peduncles slender. Funicle filiform . . . . 36. *A. juniperina.*
Petals without any prominent nerve. Heads almost sessile 37. *A. asparagoides.*
(See also 93, *A. vomeriformis,* with the glandular angle more prominent.)
Flowers mostly 4-*merous or* 3-*merous.*
Sepals free, narrow. Funicle shortly thickened . . . . . 38. *A. tenuifolia.*
Calyx toothed or lobed.
Peduncles longer than the flower-head.
Phyllodia linear. Funicle folded and thickened under the seed . . . . 39. *A. diffusa.*
Phyllodia linear-lanceolate, broad at the base. Funicle dilated and clasping the base of the seed . . . . . 40. *A. rupicola.*
Flower-heads almost sessile, few-flowered.
Flowers 6 to 10, mostly 4-merous . . . . 41. *A. rhigiophylla.*
Flowers 1 to 4, mostly 3-merous . . . . 45. *A. axillaris.*

D. **Spicatæ.**—*Phyllodia* 1- *to* 3-*nerved. Flowers* 4- *or* 3-*merous in cylindrical oblong or ovoid spikes.*

Spikes or heads few-flowered, almost sessile.
Flowers 6 to 10, mostly 4-merous . . . . 41. *A. rhigiophylla.*
Flowers 1 to 4, mostly 3-merous . . . . 45. *A. axillaris.*
Spikes pedunculate, many-flowered.
Spikes cylindrical or ovoid, dense. Flowers mostly 4-merous.
Phyllodia linear-lanceolate, very rigid, 3- or 4-nerved and striate 42. *A. oxycedrus.*
Phyllodia subulate, linear, or oblong, mostly 1-nerved and verticillate . . . . 43. *A. verticillata.*
Spikes interrupted, slender. Flowers mostly 3-merous . . . 44. *A. Riceana.*

Series IV. **Calamiformes.**—*Phyllodia rarely none, more frequently narrow-linear or subulate, terete tetragonous or very slightly flattened, articulate on the stem, obtuse or with short innocuous or recurved points,* 1- *or several-nerved. Flowers in globular heads on simple axillary peduncles, or rarely several heads in a short raceme, or irregularly racemose by the abortion of the floral phyllodia.*

(Some of Ser. VIII, *Julifloræ*, have similar phyllodia, but cylindrical or ovoid flower-spikes. 21, *A. sulcata,* and a few allied *Pungentes,* have varieties with the phyllodia almost obtuse, bringing them near to the short-leaved *Calamiformes.*)

A. **Subaphyllæ.**—*Phyllodia none or very few and slender, resembling the branches.*
Flowers 1 to 4 in the head, 4-merous. Petals striate. Pod 4-angled 46. *A. tetragonocarpa.*
Flowers numerous, 5-merous. Petals smooth. Pod not angled.
Flower-heads racemose . . . . 47. *A. restiacea.*

B. **Plurinerves.**—*Phyllodia striate, with* 2, 3, *or more nerves on each side.*
No calyx or corolla. Flower-heads in a raceme, enclosed when young in imbricate deciduous scales . . : . . . . . . 48. *A. squamata.*
Calyx and corolla present. Peduncles 1-headed.
Phyllodia numerous, under ½ in. long, obtuse or with a short straight point. Peduncles 3 to 4 lines long . . . . . . 49. *A. brachyphylla.*
Phyllodia mostly nearly 1 in. long, with a hooked or recurved point. Peduncles 3 to 4 lines long.
Petals narrow, membranous (tropical species) . . . . . 50. *A. Bynoeana.*
Petals concave and thickened at the end (Western species) . 20. *A. teretifolia.*
Phyllodia mostly 1½ to 3 in. or longer. Peduncles very short.

Nerves of the phyllodia few and prominent, usually 3.

Sepals narrow-spathulate, free (Western species) . . . . 51. *A. triptycha.*

Sepals united (Eastern species) . . . . 178. *A. elongata.*

Nerves of the phyllodia numerous, very fine, often only visible under a lens.

Phyllodia slender, terete, scarcely hooked. Sepals narrow-spathulate, nearly free. Pod unknown (Western species) 52. *A. leptoneura.*

Phyllodia thick, slightly flattened, hooked. Flowers unknown. Pod broad, flat, membranous (Southern species) 54. *A. papyrocarpa.*

Phyllodia terete, rigid, scarcely hooked. Sepals spathulate, united to the middle. Pod very narrow, twisted, convex, coriaceous (Eastern species) . . . . 53. *A. rigens.*

(185, *A. lineolata*, has sometimes nearly the phyllodia of *A. leptoneura*, but decidedly flattened and often much broader.)

C. **Uninerves.**—*Phyllodia* 1-*nerved or nerveless.*

Phyllodia mostly elongated, above 1½ in. long.

Peduncles 1-headed. Flowers 1 to 4 in the head, 4-merous. Petals striate . . . . 46. *A. tetragonocarpa.*

Peduncles 1-headed. Sepals spathulate (Eastern species).

Phyllodia 1½ to 2 or rarely 3 in. long; nerve prominent. Petals with a prominent midrib . . . . 55. *A. pugioniformis.*

Phyllodia 3 to 6 in. long, obscurely nerved. Petals without any prominent nerve . . . . 56. *A. juncifolia.*

Peduncles mostly bearing a raceme of 2 or 3 heads. Calyx shortly toothed or lobed (Eastern species) . . . . 57. *A. calamifolia.*

Peduncles 1-headed or rarely irregularly racemose. Calyx truncate (Western species).

Phyllodia terete, obscurely nerved . . . . 58. *A. scirpifolia.*

Phyllodia prominently nerved. Branches acutely angular, almost winged . . . . 59. *A. extensa.*

Phyllodia short, rarely exceeding 1 in.

Phyllodia very rigid, tetragonous, with very prominent nerves, 1 in. long or rather more . . . . 60. *A. gonophylla.*

Phyllodia mostly under 1 in., terete or slightly flattened horizontally, usually nerveless, and often petiolate.

Branches not thorny.

Phyllodia mostly ½ to ¾ in., narrowed but not petiolate. Peduncles slender . . . . 61. *A. ericifolia.*

Phyllodia mostly 1 in. long, distinctly petiolate. Peduncles short . . . . 62. *A. uncinella.*

Branches spinescent . . . . 63. *A. oxyclada.*

(147, *A. subulata*, has sometimes the long slender phyllodia scarcely broader than in *A. juncifolia*, but is readily distinguished by the small flower-heads several in a raceme.)

SERIES V. **Brunioideæ.** – *Phyllodia numerous, small, linear-subulate (except* A. conferta*), verticillate, clustered or crowded, obtuse or with innocuous or rarely rigid points. Flowers in globular heads or simple axillary peduncles, usually exceeding the phyllodia.*

Phyllodia all regularly verticillate.

Phyllodia many in the whorl, rigid, almost pungent, ½ to 1 in. long. Petals smooth . . . . 64. *A. cedroides.*

Phyllodia 8 to 10 or more in the whorl, slender, under ½ in. long. Petals striate.

Phyllodia recurved at the end, sulcate. Pod sessile . . . 65. *A. lycopodifolia.*

Phyllodia recurved at the end, not sulcate. Pod on a stipes of 2 to 3 lines . . . . 67. *A. galioides.*

Phyllodia straight at the end, sulcate. Pod sessile . . . 66. *A. hippuroides.*

Phyllodia 5 to 7 in the whorl, recurved at the end, not sulcate. Petals not striate, with a prominent midrib . . . . 68. *A. Baueri*
Phyllodia in clusters of about 3. Pod almost woody, narrowed into a long stipes . . . . 69. *A. subternata.*
Phyllodia crowded, but scattered or irregularly verticillate, under ½ in. long.
Phyllodia linear-subulate . . . . 70. *A. bruniades.*
Phyllodia flattened . . . . 71. *A. conferta.*

SERIES VI. **Uninerves.**—*Phyllodia vertically flattened, either narrow and obtuse or with a short oblique point, or broad and obtuse, acute or rarely pungent-pointed, with* 1 *central or nearly marginal nerve, or very rarely* 2*-nerved. Flowers in globular heads, either on simple axillary peduncles, solitary, in pairs or clusters, or several in axillary racemes.*

A. **Spinescentes.**—*Rigid shrubs, with spinescent branches. Phyllodia small, usually narrow, not pungent, without marginal glands. Stipules minute or none (except sometimes in* A. scabra). *Peduncles* 1*-headed.*

Phyllodia narrow-linear.
Scabrous-pubescent. Phyllodia scattered. Stipules setaceous . 72. *A. scabra.*
Nearly glabrous. Phyllodia clustered. Sepals free . . . . 73. *A. nodiflora.*
Glabrous. Phyllodia scattered.
Flowers not above 10, in a very small head. Calyx very short, truncate. Funicle filiform . . . . 74. *A. spinosissima.*
Flowers about 20 in the head. Calyx lobed, half as long as the corolla. Funicle club-shaped . . . . 75. *A. ulicina.*
Phyllodia obovate oblong or lanceolate, 2 to 4 lines long. Calyx very short, truncate . . . . 76. *A. erinacea.*

B. **Armatæ.** *Shrubs or undershrubs, not spinescent (except sometimes* A. congesta *and* A. idiomorpha*). Phyllodia from obovate to lanceolate, rarely above* 1½ *in. long, more or less undulate, with a central nerve and usually nerve-like margins; marginal glands none or very small and obscure. Stipules generally persistent, either spinescent or setaceous or acuminate or phyllodia-like. Peduncles* 1*-headed.*

Phyllodia short, broadly recurved-falcate, pungent pointed. Calyx none. Petals 5, hirsute . . . . 77. *A. Huegelii.*
Phyllodia obovate to incurved-falcate. Calyx small. Petals 4, glabrous.
Glabrous. Buds obtuse. Stipules spinescent . . . . . . 78. *A. nervosa.*
Scabrous-pubescent. Buds acuminate. Stipules small . . . 79. *A. obovata.*
Phyllodia various. Flowers 5-merous.
Petals glabrous.
Glabrous, rigid and spinescent. Phyllodia obliquely ovate-lanceolate rigid, almost pungent. Stipules small . . . . 80. *A. congesta.*
Glabrous, rigid, unarmed except the stipules. Phyllodia obliquely oblong or cuneate, very thick or rigid, undulate . 81. *A. dermatophylla.*
Glandular-pubescent and resinous. Phyllodia obliquely oblong-linear or narrow-falcate . . . . 82. *A. aspera.*
Hirsute or glabrous. Phyllodia obliquely semiovate or lanceolate. Stipules spinescent (wanting in some garden varieties) . . . . 83. *A. armata.*
Densely pubescent, rigid and spinescent. Phyllodia broadly ovate, pungent-pointed . . . . 84. *A. idiomorpha.*
Petals hirsute.
Shrubby. Phyllodia obovate-orbicular, not narrowed at the base . . . . 85. *A. Shuttleworthii.*
Undershrub. Phyllodia obliquely obovate or oblong, narrowed at the base. Stipules setaceous . . . . 87. *A. pilosa.*

Habit and phyllodia of *A. pilosa.* Bracts more acuminate. Stipules with a broad base . . . . 86. *A. Gregorii.*
Undershrub. Phyllodia narrow, incurved and oblique, scarcely narrowed at the base. Stipules setaceous . . . . . . 88. *A. crispula.*
Phyllodia of *A. crispula.* Stipules like the phyllodia and about half their length . . . . 89. *A. crassistipula.*

Some garden specimens of *A. armata* have some of the phyllodia 2-nerved; the other 2- or more nerved species, formerly included in *Armatæ*, are now transferred to the *Plurinerves.*

107, *A. hispidula*, and 108, *A. undulifolia*, among *Brevifoliæ*, have the undulate phyllodia, but not the stipules of *Armatæ*, and 120, *A. sentis*, and 121, *A. dentifera*, among *Angustifoliæ*, have occasionally spinescent stipules.

C. **Triangulares.** *Shrubs usually rigid and occasionally spinescent. Phyllodia small, rigid, the nerve either near the lower margin or rarely central, the upper side more or less dilated, the margin rounded or angular, with usually a gland at the angle. Stipules spinescent or setaceous or minute. Peduncles* 1-*headed.*

Phyllodia tapering to a pungent point, the glandular angle below the middle or diverging from the base.
Phyllodia hastate or lanceolate, the nerve nearly central. Flowers 4-merous, 3 to 5 (usually 4) in the head.
Petals glabrous . . . . 90. *A. hastulata.*
Petals densely villous . . . . 91. *A. horridula.*
Phyllodia semilanceolate or divaricately 2-lobed, the nerve near the lower margin.
Flowers 4-merous, 8 to 12 in the head . . . . 92. *A. divergens.*
Flowers 5-merous, 30 or more in the head . . . . 93. *A. vomeriformis.*
Phyllodia truncate-triangular or trapezoid, the nerve often excentrical, produced into a small pungent point, the upper angle above the middle.
Flowers 4-merous, 2, rarely 3 or 4 in the head . . . . 94. *A. biflora.*
Flowers 4-merous, 6 to 10 or more in the head.
Phyllodia triangular or rhomboidal, not much longer than broad at the top . . . . 95. *A. decipiens.*
Phyllodia cuneate, much longer than broad . . . . 96. *A. cuneata.*
Flowers mostly 5-merous, 8 to 20 or more in the head. Glandular angles of the phyllodia broad and rounded, the pointed angle at the end of the lower side scarcely pungent.
Calyx lobed.
Phyllodia very coriaceous. Petals hirsute . . . . . . 97. *A. dilatata.*
Phyllodia usually small, slightly coriaceous. Petals glabrous.
Phyllodia obovate or broadly cuneate-oblong . . . . 98. *A. bidentata.*
Phyllodia narrow-cuneate oblong . . . . 99. *A. acanthoclada.*
Sepals distinct, spathulate. Phyllodia scarcely triangular. (See the first 3 species of the following subseries.)

D. **Brevifoliæ.**—*Shrubs, never spinescent. Phyllodia either broad ovate or falcate, or narrow, oblong or linear, short (under* 1 *in. or larger in* A. anceps*), obtuse or with a small recurved innocuous point, occasionally undulate and more pointed. Stipules minute or none. Peduncles* 1-*headed.*

Phyllodia from obovate-orbicular to linear, obtuse but with the nerve ending in a small recurved point. Sepals free, linear-spathulate.
Phyllodia rarely exceeding ½ in. Branches scarcely angular. Flowers 10 to 15 or rarely 20 in the head (Eastern species).

Phyllodia broadly obovate or orbicular . . . . 100. *A. obliqua.*

Phyllodia oblong, with a minute gland at the end . . . . 101. *A. acinacea.*

Phyllodia linear . . . . 102. *A. lineata.*

Phyllodia mostly ½ to 1 in. Branches acutely angular. Flowers numerous (30 or more) in the head (Western species).

Phyllodia linear. Pod narrow. Funicle short . . . . . 103. *A. triquetra.*

Phyllodia lanceolate . . . . 104. *A. ligustrina.*

Phyllodia obovate-oblong or obliquely cuneate. Pod broad. Funicle long, much-folded . . . . 105. *A. Meissneri.*

Phyllodia crowded, linear, obtuse, under ½ in. long. Sepals linear-spathulate . . . . 71. *A. conferta.*

Phyllodia from orbicular to cuneate or linear, very obtuse or mucronate. Sepals united in a toothed calyx (except *A. dura*).

Branches with 3, rarely 2 acute angles. Phyllodia very thick, rather large, broad or narrow. Flower-heads dense, on thick peduncles . . . . 106. *A. anceps.*

Branches scarcely angular.

Phyllodia oblong-falcate, often undulate, the nerve-like margin scabrous denticulate . . . . 107. *A. hispidula.*

Phyllodia broadly ovate or orbicular, mucronate, much undulate, entire. Peduncles slender . . . . 108. *A. undulifolia.*

Phyllodia linear or linear-oblong, very obtuse, with a thick nerve within the lower edge, and a very thick nerve-like upper edge. Flower-heads small, few-flowered.

Calyx shortly lobed or toothed. Branches usually hoary (Eastern species) . . . . 109. *A. flexifolia.*

Sepals free, spathulate. Branches glabrous. Phyllodia very rigid (Western species) . . . . 110. *A. dura.*

Phyllodia cuneate-oblong, very obtuse, thick and fleshy, almost nerveless . . . . 111. *A. spathulata.*

Phyllodia oblong-linear, obtuse, equally but not prominently 2-nerved . . . . 113. *A. montana.*

(155, *A. brachybotrya* has occasionally the peduncles 1-headed, and is then near *A. undulifolia.*)

E. **Angustifoliæ.**—*Shrubs or trees, not spinescent. Phyllodia oblong-lanceolate or linear, occasionally falcate, with 1 central nerve or rarely 2-nerved, mostly above 1 in. long. Stipules minute or none, or rarely spinescent. Peduncles 1-headed. Some of the species very resinous.*

Peduncles very short, rarely above ¼ in. long. Usually resinous.

Phyllodia oblong-linear or lanceolate, faintly 1-nerved. Sepals free, narrow . . . . 112. *A. microcarpa.*

Phyllodia 2-nerved. Calyx toothed or lobed.

Phyllodia very obtuse, mostly under 1½ in. . . . . . . 113. *A. montana.*

Phyllodia mostly acute, above 1½ in. . . . . 114. *A. verniciflua.*

Phyllodia 1-nerved. Calyx toothed or lobed.

Phyllodia mostly acute or mucronate; lateral veins fine and not very conspicuous . . . . 115. *A. leprosa.*

Phyllodia mostly obtuse; lateral anastomosing veins very numerous and conspicuous . . . . 116. *A. stricta.*

Peduncles usually nearly or above ½ in. long. Phyllodia always 1-nerved.

Very resinous. Lateral veins few, rather prominent, anastomosing. Calyx toothed or lobed.

Phyllodia lanceolate or linear-lanceolate . . . . 117. *A. dodonæifolia.*

Phyllodia narrow-linear, numerous . . . . 118. *A. Gnidium.*

Not resinous. Lateral veins scarcely conspicuous.

- Phyllodia narrow-linear, thick, the midrib obscure. Funicle linear, thick, scarcely folded. (Flowers unknown) . . . 119. *A. ramosissima.*
- Phyllodia with a prominent midrib.
  - Calyx short, truncate . . . . 138. *A. salicina.*
  - Sepals narrow, free.
    - Pedicels solitary or in pairs, the upper ones often racemose from the abortion of the phyllodia. Stipules often spinescent.
      - Phyllodia rarely above 2 in. long . . . . 120. *A. sentis.*
      - Phyllodia very narrow, 3 to 8 in. long . . . . . 121. *A. dentifera.*
    - Pedicels slender, clustered in the axils. Stipules not spinescent. Phyllodia lanceolate-falcate, 4 to 6 in. long . . . . 122. *A. fasciculifera.*

F. **Racemosæ.**—*Not spinescent. Phyllodia not pungent (except in a few broad-leaved species), with one central nerve or very rarely a second shorter or fainter one, the veinlets when visible diverging from the midrib or reticulate. Flower-heads globular, few or all or nearly all in axillary racemes, very rarely a few solitary in the lower axils of a young branch. Flowers usually small and 5-merous in all except* A. myrtifolia. *Petals not striate.*

- Phyllodia mostly long, falcate-lanceolate or almost linear, narrowed at the ends, more or less distinctly penniveined. Calyx about half as long as the corolla.
  - Eastern species. Flower-heads small.
    - Phyllodia mostly long lanceolate-falcate.
      - Sepals free, narrow. Gland of the phyllodia at the base or none. Funicle surrounding the seed . . . . 123. *A. falcata.*
      - Sepals united. Gland of the phyllodia at the base or none.
        - Veinlets transverse; funicle short . . . . 124. *A. macradenia.*
      - Sepals united. Gland of the phyllodia distant from the base, a secondary nerve often leading to it. Veinlets obtuse. Funicle surrounding the seed . . . . 125. *A. penninervis.*
    - Phyllodia mostly long linear-falcate.
      - Sepals united. Gland distant from the base or none. Funicle surrounding the seed . . . . 126. *A. retinodes.*
      - Sepals free or nearly so. Gland at the base of the phyllodia minute or none. Funicle short, the last fold clavate . . . . 127. *A. neriifolia.*
  - Western species (the first near *A. sentis*, the second near *A. falcata*, the others near *A. pycnantha*).
    - Phyllodia 1-nerved.
      - Sepals narrow, quite distinct . . . . 121. *A. dentifera.*
      - Sepals united, at least at first.
        - Flower-heads small, on short slender peduncles. Funicle long, folded . . . . 128. *A. microbotrya.*
        - Flower-heads rather large, on rather stout peduncles. Funicle clavate, as long as the seed, scarcely folded at the base.
          - Phyllodia more or less prominently penniveined . . 130. *A. cyanophylla.*
          - Phyllodia smooth, the veins scarcely conspicuous . . 129. *A. saligna.*
    - Phyllodia 2-nerved . . . . 174. *A. bivenosa.*
- Phyllodia long falcate-lanceolate or almost linear or thick and nearly straight. Flower-heads dense, rather large. Calyx at least long as the corolla.
  - Phyllodia penniveined, much falcate. Seeds longitudinal, funicle clavate, scarcely folded at the base . . . . 131. *A. pycnantha.*
  - Phyllodia thick, straight or falcate, obtuse. Seeds transverse, the funicle almost encircling them . . . . 132. *A. notabilis.*

Phyllodia straight or falcate, thick, oblong-linear and obtuse or rarely lanceolate acute, the lateral veins inconspicuous or very obscure. Calyx about half as long as the corolla, readily separating into distinct sepals.

Phyllodia 3 to 6 in. long, obtuse, incurved. Sepals narrow, quite distinct. Two folds of the funicle encircling the seed . . . 133. *A. gladiiformis.*

Phyllodia 1½ to 3 in. long, obtuse, nearly straight. Racemes very short. Sepals at first cohering . . . . 134. *A. obtusata.*

Phyllodia about 3 in. long, rather acute, usually with 1 gland. Racemes many-headed. Sepals at first cohering . . . . 135. *A. rubida.*

Phyllodia (on flowering branches) 1½ to 2½ in. long, usually with 2 or 3 distant glands. Racemes many-headed. Sepals at first cohering. Three folds of the funicle encircling the seed . . 136. *A. amœna.*

Phyllodia 2 to 5 in. long, scarcely falcate, thick, obscurely reticulate. Racemes few-headed. Sepals at first cohering. Funicle clavate, scarcely folded at the base . . . . 137. *A. hakeoides.*

(See also the longest-leaved forms of *A. crassiuscula* and *A. decora.*)

Phyllodia linear, thick, rarely falcate-lanceolate, usually without glands, the lateral veins reticulate and obscure. Seeds longitudinal.

Calyx short, thin, truncate.

Phyllodia mostly oblong-linear, obtuse. Pod thick . . . 138. *A. salicina.*

Phyllodia lanceolate-linear with an oblique or recurved callous point (western species) . . . . 139. *A. rostellifera.*

Calyx lobed, thin, half as long as the corolla (Western species).

Phyllodia all narrow-linear, erect. Pod narrow, flat, thinly coriaceous. Funicle folded into a small fleshy aril . . . 140. *A. pycnophylla.*

Phyllodia all narrow-linear. Flower-heads small. Pod ½ in. broad, very flat, coriaceous. Funicle long, folded . . . 141 *A. Harveyi.*

Phyllodia linear or lanceolate, usually thick. Sepals very thin or narrow, distinct. Pod very flat, obtuse. Seeds transverse. Young racemes often enclosed in imbricate scales.

Young branches acutely triquetrous. Pod broad coriaceous and glaucous. Sepals very thin.

Phyllodia mostly above 3 in. long (Eastern species) . . . 142. *A. suaveolens.*

Phyllodia mostly under 3 in. long (Western species) . . . 143. *A. subcærulea.*

Phyllodia long, lanceolate, penniveined (Western species) . . 144. *A. Lindleyi.*

Young branches scarcely angular. Pod membranous. Sepals very narrow.

Phyllodia under 2 in. long, oblong-linear or lanceolate (Western species) . . . . 145. *A. leptopetala.*

Phyllodia several inches long, narrow linear (Eastern species). 146. *A. Murrayana.*

Phyllodia very narrow-linear, rather thin, 3 to 6 in. long. Flowers of *A. linifolia* . . . . 147. *A. subulata.*

Phyllodia rarely exceeding 1½ in., linear lanceolate or obliquely oblong, not very thick, without thick margins.

Pod flat 4 to 6 lines broad, not contracted between the seeds. Seeds along the centre.

Glabrous or pubescent. Flowers under 15 in the head.

Phyllodia linear, straight . . . . 148. *A. linifolia.*

Phyllodia lanceolate-falcate or slightly oblong . . . . 149. *A. prominens.*

Hispid with long hairs. Flowers above 20 in the head . . 150. *A. Leichhardtii.*

Pod rather thick, coriaceous, 2 to 2½ lines broad, contracted between the seeds. Flowers about 20 in the head . . . . 151. *A. crassiuscula.*

Pod flat, about 3 lines broad, often contracted between the seeds. Seeds close to the edge.

Phyllodia linear or lanceolate, 1 to 1½ in. Flowers 15 to 20 in the head . . . . 152. *A. decora.*

Phyllodia obliquely oblong or broadly lanceolate, rarely above 1 in. long. Flowers 8 to 15 in the head . . . . 153. *A. buxifolia.*
Phyllodia falcate oblong or obliquely ovate, rarely above 1 in. long. Flowers 4 to 10 in the head . . . . 154. *A. lunata.*
Phyllodia ovate obovate or broadly oblong, usually under 1 in., or in Nos. 157 and 158 often 1½ in. long.
Racemes short with few heads. Flowers numerous.
Sepals free or separating. Funicle short, clavate . . . . 155. *A. brachybotrya.*
Calyx short, broad, shortly toothed. Funicle long, folded round the seed . . . . 156. *A. Wattsiana.*
Racemes much longer than the phyllodia.
Glaucous and scarcely pubescent. Phyllodia ovate obovate or broadly oblong, 1 to 1½ in. long. Flowers numerous . 157. *A. podalyriæfolia.*
Softly pubescent. Phyllodia elliptical falcate or broadly and obliquely oblong, 1½ in. or rather longer. Flowers numerous 158. *A. uncifera.*
Hirsute. Phyllodia ovate-elliptical recurved obliquely aristate mostly about ½ in. Flowers 10 to 20 . . . . . . 159. *A. vestita.*
Glaucous and glabrous. Phyllodia falcate-ovate or curved-oblong, under 1 in. long. Flowers 10 to 20 . . . . 160. *A. cultriformis.*
Glabrous. Phyllodia falcate-obovate or trapezoid, usually 2-nerved and not exceeding ½ in. Flowers 8 to 12 . . . 161. *A. pravissima.*
Phyllodia ovate, spinescent, 1 to 3 in. long. Stipules spinescent. Racemes exceeding the leaves. Flowers numerous . . . . 162. *A. pyrifolia.*
Phyllodia incurved-falcate, ovate lanceolate or linear, coriaceous with thick margins. Flowers 4-merous, 2 to 4 or rarely 6 in the head. Racemes rarely exceeding the leaves . . . . . . 163. *A. myrtifolia.*

SERIES VII. **Plurinerves.**—*Phyllodia vertically flattened, obtuse or with an innocuous or recurved point (rarely pungent when the phyllodium is broad), with 2 or more longitudinal nerves. Flowers in globular heads on axillary peduncles, either solitary or clustered or shortly racemose.*

A. **Armatæ.**—*Stipules spinescent. Phyllodia falcate, subulate-acuminate or almost pungent.*

Phyllodia ¾ to 1½ in. long, 2-nerved, the upper margin entire, nerve-like, with a prominent angle . . . . 164. *A. scalpelliformis.*
Phyllodia 1½ to 3 in. or longer, 2- to 4-nerved, the upper margin much-curved, undulate, crenulate . . . . 165. *A. urophylla.*

B. **Triangulares.**—*Stipules setaceous or minute, not spinescent. Phyllodia small (under ½ in. long), broadly falcate-ovate or triangular with small points often pungent.*

Phyllodia triangular. Pod narrow, curved or twisted, glabrous.
Branches usually spinescent. Phyllodia rather distant. Flowers 20 to 30 in the head . . . . 166. *A. sublanata.*
Branches elongated, rather rigid. Phyllodia numerous. Flowers 10 to 15 in the head . . . . 167. *A. amblygona.*
Phyllodia ovate-falcate. Pod flat, glandular-hispid.
Flowers not ¾ line long. Calyx much shorter than the corolla . 168. *A. deltoidea.*
Flowers above 1 line long. Calyx nearly as long as the corolla. 169. *A. stipulosa.*

(95, *A. decipiens* and some allied 1-nerved species, have occasionally 1 or 2 secondary nerves, but fainter and shorter than the principal one.)

C. **Brevifoliæ.**—*Phyllodia under 1 in. long, obovate ovate or broadly oblong, very obtuse, often undulate. Stipules inconspicuous.*

Phyllodia under ¼ in. or very rarely ½ in. long. Petals smooth.
Phyllodia faintly 2-nerved, very oblique . . . . 170. *A. loxophylla.*
Phyllodia faintly several-nerved, obtuse but with an incurved hair-like point . . . . 171. *A. setulifera.*

Phyllodia ½ to 1 in. long. Petals strongly striate.
Phyllodia faintly nerved. Calyx shortly toothed. Pod thick and hard, hooked at the end, tapering into a long stipes . . 172. *A. translucens.*
Phyllodia several-nerved. Sepals spathulate, free or separating. Pod thinly coriaceous, flat with thickened parallel margins, glutinous and villous . . . . 173. *A. impressa.*

D. **Oligoneuræ.** *Phyllodia above ½ in. and mostly above 1 in. long, oblong lanceolate or linear, straight or scarcely falcate, with 2 or 3 nerves, faintly or not at all veined between them* (*except* A. Simsii), *and not glutinous* (*except* A. subporosa).

Flower-heads racemose. Phyllodia coriaceous, obtuse.
Phyllodia 2-nerved. Flower-heads loosely and irregularly racemose. Calyx short, toothed . . . . 174. *A. bivenosa.*
Phyllodia 3-nerved. Flower-heads very shortly racemose. Sepals distinct . . . . 175. *A. trineura.*
Peduncles solitary or clustered.
Phyllodia rigid, prominently 3-nerved, rarely 2-nerved.
Sepals free, spathulate (Western species).
Phyllodia ½ to 1½ in. long, linear-cuneate . . . . . . 176. *A. nitidula.*
Phyllodia 1½ to 3 in. long, linear-lanceolate or linear . . 177. *A. heteroclita.*
Calyx turbinate, lobed. Phyllodia long, linear (Eastern species) 178. *A. elongata.*
Phyllodia less rigid, nerves 3 rarely 2, less prominent, and often veins between them.
Glutinous. Phyllodia marked with numerous glandular dots. 179. *A. subporosa.*
Not glutinous nor dotted . . . . 180. *A. Simsii.*

(13, *A. cochlearis* and some allied species among *Pungentes*, have occasionally scarcely pungent phyllodia, bringing them near to *A. heteroclita.*)

(113, *A. montana*, and 114, *A. verniciflua*, have usually 2 prominent nerves, but are closely connected with and pass into some 1-nerved species; both are glutinous.)

(191, *A. Whanii*, 194, *A. eriophylla*, and some others of *F, Nervosæ*, have sometimes only 2 or 3 nerves, but usually either a greater number or they anastomose with each other.)

E. **Microneura.**—*Glabrous or glaucous and not glutinous. Phyllodia thick, veinless or with very fine, scarcely prominent parallel veins, narrow or rarely short and obovate.*

Phyllodia cuneate-oblong or almost obovate, very obtuse, about ½ in. long . . . . 181. *A. leptospermoides.*
Phyllodia linear or linear-cuneate, obtuse, ¾ to 1½ in. long . . . 190. *A. farinosa.*
Phyllodia linear-lanceolate, 1 to 3 in. long.
Flower-heads on short peduncles.
Pod 2 to 3 lines broad, coriaceous, longitudinally striate . . 182. *A. homalophylla.*
Pod 5 lines broad, thin, flat, transversely reticulate . . . . 183. *A. pendula.*
Flower-heads sessile . . . . 184. *A. Oswaldi.*
Phyllodia linear, very narrow and rigid, 1½ to 2 in. long . . . 185. *A. lineolata.*
Phyllodia linear, ½ ft. long or more.
Veins only visible under a lens (Western species) . . . . . 186. *A. coriacea.*
Veins very fine but prominent (Eastern species) . . . . . 187. *A. stenophylla.*
Phyllodia linear-lanceolate falcate, ½ ft. long or more . . . . . 200. *A. harpophylla.*

F. **Nervosæ.**—*Often viscid, occasionally glaucous, rarely hoary or pubescent. Phyllodia straight or sometimes falcate, coriaceous or thin, with several prominent nerves and, when broad, reticulate between them, the nerves rarely reduced to 3 when the phyllodium is narrow.*

Glaucous. Phyllodia coriaceous, oblong-cuneate, obtuse; nerves 3 to 5, slightly prominent, veins reticulate . . . . 188. *A. hemignosta.*
Glabrous, not viscid. Phyllodia linear, coriaceous with a prominent midrib and several fine parallel nerves . . . . 192. *A. heteroneura.*

- Glabrous, often viscid. Phyllodia rigid, narrow, obtuse, with few prominent, more or less anastomosing nerves.
  - Phyllodia ¾ to 1 in. long. Veins scarcely anastomosing. Sepals free.
    - Nerves prominent. Peduncles glabrous . . . . 189. *A. sclerophylla.*
    - Nerves faint. Peduncles tomentose . . . . 190. *A. farinosa.*
  - Phyllodia 1½ to 2 in. long. Veins more anastomosing. Sepals very thin, united . . . . 191. *A. Whanii.*
- Very viscid. Nerves or veins numerous.
  - Nerves parallel scarcely anastomosing.
    - Phyllodia narrow-linear . . . . 193. *A. viscidula.*
    - Phyllodia linear-lanceolate or oblong . . . . 194. *A. ixiophylla.*
  - Reticulate veins very prominent, anastomosing with the nerves . 195. *A. dictyophleba.*
- Not viscid. Nerves or veins usually numerous.
  - Phyllodia nearly straight, coriaceous, many-nerved, strongly reticulate.
    - Phyllodia oblong-lanceolate. Funicle folded and thickened under the seed (Eastern species) . . . . 196. *A. venulosa.*
    - Phyllodia oblong, obtuse. Funicle encircling the seed in a double fold (Western species) . . . . 197. *A. cyclopis.*
    - Phyllodia falcate-oblong or lanceolate, obtuse. Veins numerous. Funicle encircling the seed (Eastern species) . . 198. *A. melanoxylon.*
  - Phyllodia long and falcate, coriaceous.
    - Reticulate veins numerous.
      - Pod broad. Funicle encircling the seed in a double fold . 198. *A. melanoxylon.*
      - Pod narrow, twisted. Funicle folded under the seed . . 199. *A. implexa.*
    - Reticulate veins few, scarcely conspicuous, nerves several, fine 200. *A. harpophylla.*
  - Phyllodia rather thin, straight, with several nerves and few fine intermediate veins.
    - Branches terete . . . . 201. *A. excelsa.*
    - Branches flattened, 2-edged or 2-winged . . . . 202. *A. complanata.*

G. **Dimidiatæ.**—*Phyllodia, usually broad, and often long, falcate or very oblique, with 2, 3, or 4 prominent distant nerves, and reticulately penniveined between them.*

- Glabrous. Phyllodia rather thin (3 to 4 in.). Flower-heads in axillary racemes growing out into leafy branches. Pod 6 to 8 lines broad . . . . 203. *A. binervata.*
- Glabrous. Phyllodia coriaceous, long-falcate (6 to 8 in.). Flower-heads in axillary clusters or very short racemes . . . . . 204. *A. latescens.*
- Hoary or glaucous. Phyllodia large, broad (3 to 4 in.). Pod above 1 in. broad . . . . 205. *A. sericata.*
- Young shoots hoary or yellowish-tomentose. Phyllodia large broad (4 to 8 in.). Flower-heads small, in a terminal panicle. Pod ¾ in. broad . . . . 206. *A. flavescens.*
- Woolly or velvety-tomentose. Phyllodia obovate or orbicular (1½ to 2 in.). Flower-heads in a terminal raceme . . . . . . 207. *A. retivenia.*

SERIES VIII. **Julifloræ.**—*Phyllodia vertically flattened or in a few species terete, several-nerved or rarely* 1-*nerved, obtuse acute or pointed, rarely slightly pungent. Flowers in cylindrical dense or interrupted spikes, rarely, when sessile, shortly oblong.*

A. **Rigidulæ.**—*Phyllodia flat, often short, straight oblique or shortly falcate. Spikes dense (except* A. megalantha). *Flowers* 5-*merous. Species all tropical except the last* 2, *which are eastern.*

- Phyllodia small, rarely above ½ in. long, undulate.
  - Phyllodia mostly clustered, narrow, 2 to 4 lines long. Spikes sessile. Sepals free . . . . 208. *A. amentifera.*
  - Phyllodia broad, about ½ in. long. Spikes pedunculate. Calyx sinuate-toothed. Seeds oblique . . . . 209. *A. Wickhami.*

Phyllodia narrow, obtuse with a short point, ½ to 1½ in. long.
Phyllodia obscurely 3- to 5-nerved. Pod 3 to 6 lines broad. Seeds oblique . . . . 210. *A. lysiphlœa.*
Phyllodia obscurely 1-nerved. Pod 1½ lines broad. Seeds longitudinal . . . . 211. *A. linarioides.*
Phyllodia rather broad, coriaceous, mostly 1 to 3 in. rarely 4 in. long, obtuse or with a glandular callous point, straight oblique or shortly falcate.
Tomentose or pubescent. Stipules conspicuous. Phyllodia 1 to 2 in. long, 2- to 4-nerved, with anastomosing veins. Pod narrow . . . . 212. *A. stipuligera.*
Resinous. Phyllodia 1 to 1½ in. long, 5- to 9-nerved, without intermediate veins . . . . 213. *A. ptychophylla.*
Glabrous, except the young shoots. Phyllodia obliquely narrowed at both ends, somewhat undulate, with a terminal gland often large.
Phyllodia finely 3- to 5-nerved. Spikes pedunculate. Buds very striate. Calyx sinuate-toothed . . . . 214. *A. stigmatophylla.*
Phyllodia very coriaceous, 5- to 9-nerved. Spikes sessile. Pod terete, turgid. Seeds oblique . . . . 215. *A. umbellata.*
Phyllodia finely 3- to 5-nerved. Spikes pedunculate. Buds smooth. Calyx deeply lobed . . . . 216. *A. leptophleba.*
Phyllodia broadly oblong-falcate, obtuse or with a hooked callous point, very coriaceous.
Spikes dense. Flowers not 1 line long. Pod flat. Seeds oblique.
Pod sessile, but narrowed at the base . . . . 217. *A. limbata.*
Pod stipitate . . . . 218. *A. brevifolia.*
Spikes interrupted. Flowers 2 lines long . . . . 219. *A. megalantha.*
Phyllodia nearly straight, coriaceous, obtuse, 3 to 4 in. long. Pod narrow. Seeds longitudinal.
Branches very angular.
Spikes pedunculate . . . . 220. *A. gonoclada.*
Spikes sessile . . . . 221. *A. pycnostachya.*
Branches terete or nearly so . . . . 222. *A. subtilinervis.*

B. **Tetrameræ.**—*Phyllodia flat, coriaceous or thin, straight or falcate, several-nerved or 1-nerved when very narrow. Spikes often loose. Flowers 4-merous. Seeds longitudinal.*

Spikes very dense and sessile.
Phyllodia linear-lanceolate, very rigid, 5- to 7-nerved. Pod spirally twisted (Western species, ... 223. *A. cochliocarpa.*
Phyllodia long, broadly falcate, 2- to 5-nerved and much reticulate 224. *A. Dallachiana.*
Spikes usually slender or interrupted.
Phyllodia broadly and obliquely obovate, ¾ to 1½ in. long . . 225. *A. alpina.*
Phyllodia rarely falcate, 2 to 6 in. long or more, 3- to 5-nerved, broadly oblong and much reticulate or narrow and scarcely veined 226. *A. longifolia.*
Phyllodia long, narrow-linear, mostly 1-nerved . . . . . . 227. *A. linearis.*

(14, *A. Riceana*, and 15, *A. axillaris*, differ from the short-leaved forms of *A. linearis* in having the phyllodia more rigid and pungent.)

(A few species of the following *Stenophyllæ* have 4-merous flowers, but with linear-terete finely-striate phyllodia.)

C. **Stenophyllæ.**—*Phyllodia linear-subulate or narrow-linear, straight or slightly curved, terete or flat but thick, rarely under 2 in. long or above 1½ lines broad. Spikes dense, short or slender, with small 5-merous, or in terete-leaved species often 4-merous flowers.*

Spikes sessile. Flowers 5-merous or 4-merous. Pod narrow, with longitudinal seeds in *A. aciphylla* and *A. ephedroides*, broad with oblique seeds in *A. brachystachya*, unknown in the others.

- Phyllodia linear-subulate, terete or nearly so.
    - Phyllodia pungent-pointed, minutely striate under a lens. Spikes ovoid or oblong. Flowers 5-merous . . . . . . 228. *A. aciphylla.*
    - Phyllodia few-nerved. Spikes ovoid or oblong. Flowers 4-merous . . . . . . 229. *A. ephedroides.*
    - Phyllodia minutely striate under a lens. Spikes 3 to 4 lines long. Flowers 4-merous . . . . . . 230. *A. Burkittii.*
    - Phyllodia very long, minutely striate under a lens. Spikes ½ in. long. Flowers 5-merous . . . . . . 232. *A. cyperophylla.*
    - Phyllodia with few prominent nerves. Spikes above ½ in. Flowers 4-merous . . . . . . 233. *A. multispicata.*
- Phyllodia ½ to 1 line broad, flat but thick. Spikes under 4 lines long.
    - Phyllodia finely striate, with the central nerve prominent. Flowers 4-merous. Sepals united . . . . . . 231. *A. microneura.*
    - Phyllodia minutely striate under a lens. Flowers 5-merous. Sepals free . . . . . . 241. *A. brachystachya.*

- Spikes pedunculate. Flowers usually 5-merous. Pod narrow, with longitudinal seeds in *A. pityoides* and *A. oncinophylla*; hard, with valves rolling back elastically and oblique seeds, in *A. xylocarpa*, *A. gonocarpa*, *A. drepanocarpa*, and *A. arida*; flat, broad, thin, with oblique or transverse seeds, in *A. aneura* and *A. brachystachya.*
    - Phyllodia terete or scarcely flattened, very finely striate under a lens.
        - Calyx thin and deeply divided, the lobes not spathulate . . . 234. *A. pityoides.*
        - Sepals free, narrow-spathulate . . . . . . 240. *A. aneura.*
    - Phyllodia terete, nerveless or obscurely 1-nerved. Calyx lobed. 235. *A. xylocarpa.*
    - Phyllodia very narrow but flat, 1-nerved. Sepals free . . . 236. *A. gonocarpa.*
    - Phyllodia flat but thick, prominently 3- or 5-nerved.
        - Phyllodia with a hooked or rarely straight point (Western species) . . . . . . 237. *A. oncinophylla.*
        - Phyllodia obtuse (tropical species) . . . . . . 238. *A. drepanocarpa.*
    - Phyllodia flat, minutely striate under a lens.
        - Calyx shortly lobed . . . . . . 239. *A. arida.*
        - Sepals free, linear-spathulate.
            - Spikes cylindrical . . . . . . 240. *A. aneura.*
            - Spikes ovoid or oblong, 2 to 3 lines long . . . . . . 241. *A. brachystachya.*

D. **Falcatæ.**—*Phyllodia usually long or large, more or less falcate, narrowed at each end, with numerous parallel nerves or veins either all equal or the central one or several more prominent than the others; the smaller ones occasionally anastomosing. Spikes slender, dense or rarely interrupted. Flowers mostly 5-merous.*

(Several species of this group cannot be distinguished without the fruit.)

- Pod (where known and probably in all the species) narrow, with longitudinal seeds, or rarely broader with the longitudinal seeds along the centre.
    - Phyllodia narrow-lanceolate or linear-lanceolate, rather thick, slightly falcate, with very fine parallel nerves, the midrib usually more prominent.
        - Loosely pubescent. Stipules conspicuous. Phyllodia not above 3 in. long . . . . . . 242. *A. conspersa.*
        - Glabrous or the young shoots silky-pubescent. Stipules inconspicuous. Phyllodia mostly above 3 in. long.
            - Eastern species. Pod unknown . . . . . . 243. *A. doratoxylon.*

- Western species.
  - Young shoots usually silky-pubescent. Midrib of the phyllodia prominent. Pod narrow, convex over the oblong seeds . . . . 244. *A. acuminata.*
  - Quite glabrous. Nerves of the thick phyllodia nearly equal. Pod unknown . . . . 245. *A. stereophylla.*
  - Glabrous and glaucous. Pod rather broad, with thickened margins. Seeds ovate . . . . 246. *A. signata.*
- Phyllodia narrow-lanceolate, not so thick and rather more falcate than in the preceding species, usually with about 3 nerves more prominent than the rest.
  - Phyllodia sprinkled with a few hairs. Pod flat, slightly convex over the seeds . . . . 247. *A. delibrata.*
  - Phyllodia very glabrous, the smaller veins between the 3 principal nerves scarcely conspicuous. Pod unknown . . . 248. *A. oligoneura.*
  - Phyllodia glabrous. Nerves numerous. Pod very convex over the seeds and moniliform . . . . 249. *A. torulosa.*
  - Phyllodia glabrous. Pod spirally twisted into numerous coils 250. *A. julifera.*
  - Phyllodia glabrous. Spikes interrupted, 2 to 3 in. long (slender but dense in the preceding species) . . . . 251. *A. Solandri.*
- Phyllodia more falcate than in the preceding species, often broader or longer, with more nerves. Pod narrow or flat, straight or twisted.
  - Branches scarcely angular. Phyllodia coriaceous, often hoary with numerous very fine nerves, all free from the base. Calyx pubescent . . . . 253. *A. glaucescens.*
  - Branches very angular. Phyllodia with 1 or 2 of the principal nerves confluent with the lower margin of the base. Pod twisted . . . . 254. *A. Cunninghamii.*
  - Branches terete or nearly so. Flowers glabrous.
    - Pod very narrow and straight . . . . 255. *A. leptocarpa.*
    - Pod broad, very flexuose or twisted, not spiral. Seeds along the centre . . . . 256. *A. polystachya.*
  - Branches terete or nearly so. Flowers pubescent. Pod long and slender, longitudinally striate and furrowed . . . 257. *A. holcocarpa.*
- Pod (where known and probably in all the species) rather broad, coriaceous woody or rarely rather thin. Seeds very oblique or transverse. Parallel veins of the phyllodia usually numerous and closely packed.
  - Phyllodia long, narrow, and slightly falcate (as in *A. julifera*). Pod flat, with straight margins and undulate valves. Seeds orbicular.
    - Branches acutely angular . . . . 258. *A. plectocarpa.*
    - Branches scarcely angular . . . . 259. *A. pachycarpa.*
  - Phyllodia broad, falcate or very oblique. Pod nearly terete and turgid . . . . 260. *A. tumida.*
  - Phyllodia long, as in *A. julifera*, but usually more falcate. Pod hard, flat, contracted to the base.
    - Phyllodia 3 to 5 lines broad. Pod obtuse, not hooked . . 261. *A. loxocarpa.*
    - Phyllodia 6 to 8 lines broad. Pod obtusely hooked at the end 262. *A. oncinocarpa.*
  - Phyllodia broad, falcate or very oblique. Pod broad, hard, and woody, obliquely veined.
    - Branchlets 3-angled. Pod obtusely recurved or hooked at the end, much narrowed at the base . . . . 264. *A. aulacocarpa.*
    - Branchlets very flat. Pod not hooked, narrowed at the base . 265. *A. calyculata.*
    - Branchlets nearly terete or slightly angular. Pod broad, very hard, obliquely truncate at the base.
      - Pod flat or scarcely twisted, the outer margin entire . . 266. *A. crassicarpa.*

Pod much twisted, the outer margin deeply sinuate . . . 267. *A. auriculiformis.*

Pod quite uncertain.

Phyllodia narrowed at both ends, with numerous parallel veins or nerves, and usually falcate, as in the *Falcatæ*, but under 3 in. long . . . . 252. *A. leptostachya.*

Phyllodia of *A. julifera* and others of the *Falcatæ*, but the small lateral parallel veins appearing, under a lens, very much anastomosed into a fine network . . . . 263. *A. retinervis.*

E. **Dimidiatæ.** *Phyllodia large, broad, very oblique or falcate, with 3 or more distant prominent nerves, more or less confluent at or near the lower margin at the base, pinnately net-veined between them.*

Branchlets very acutely angular or almost winged.

Glabrous and glaucous. Spikes pedunculate. Flowers mostly 4-merous . . . . 268. *A. latifolia.*

Hoary or silky-pubescent. Spikes sessile. Flowers mostly 5-merous . . . . 269. *A. holosericea.*

Branchlets terete or scarcely angular.

Spikes 1 to 2 in. long. Flowers glabrous. (Erect shrub) . . 270. *A. dimidiata.*

Spikes scarcely ½ in. long, dense. Flowers densely pubescent. Stem prostrate or diffuse . . . . 271. *A. humifusa.*

DIV. II. *BIPINNATÆ.—Leaves all bipinnate.*

SERIES IX. **Botryocephalæ.**—*Leaves bipinnate. Stipules small or none. Flower-heads globular, in axillary racemes or terminal clusters.*

Pinnæ 2 to 4 pairs, rarely 5 or 6 pairs. Leaflets above ¼ in. long.

Young shoots golden-pubescent. Leaflets 8 to 12 pairs, lanceolate, acute, 1 to 2 in. long . . . . 272. *A. elata.*

Glabrous and glaucous. Leaflets 12 to 20 pairs, oblong or linear, scarcely acute, about ½ in. long. Gland distant from the lowest pinnæ . . . . 273. *A. pruinosa.*

Glabrous and glaucous. Leaflets 4 to 8 pairs, obovate-oblong, very obtuse, 4 to 6 lines long. Gland close to the lowest pinnæ 274. *A. spectabilis.*

Foliage pubescent. Leaflets 6 to 10 pairs or more, obtuse, 3 to 4 lines long. Gland at the base of the petiole . . . . . 275. *A. polybotrya.*

Foliage glabrous. Leaflets 10 to 15 pairs, obtuse or acute, firm, pale underneath, 3 to 4 lines long . . . . 276. *A. discolor.*

Pinnæ 8 to 15 pairs. Leaflets very numerous, narrow-linear and very small, or 3 to 4 lines long and subulate.

Glabrous, or, if tomentose, pubescent, the young shoots of a yellowish or golden tinge. Pod (always?) under 4 lines broad, often contracted between the seeds . . . . 277. *A. decurrens.*

Silvery-tomentose or very glaucous. Pod (always?) above 4 lines broad, not contracted between the seeds . . . . . 278. *A. dealbata.*

Pinnæ 12 to 15 pairs. Leaflets 6 to 10 pairs, ovate-cordate, under 1 line long. Branches pubescent . . . . 279. *A. cardiophylla.*

Pinnæ 3 to 6 pairs. Leaflets 6 to 10 pairs, oblong, under 2 lines long. Branches glabrous or hispid. Flowers numerous, in dense heads . . . . 280. *A. leptoclada.*

Pinnæ 3 to 10 pairs. Leaflets 6 to 20 pairs, linear, under 2 lines long. Branches hirsute. Flowers few in the heads . . . . 281. *A. pubescens.*

SERIES X. **Pulchellæ.**—*Leaves bipinnate. Stipules none or smaller, setaceous, not spinescent. Flower-heads globular or cylindrical, on simple axillary solitary or clustered peduncles.*

Seeds longitudinal. Flower-heads globular. Petals not striate.

Spines axillary, rarely entirely wanting. Pinnæ 1 pair. Leaflets 4 to 7 pairs . . . . 282. *A. pulchella.*

No spines.

Branches pubescent. Pinnæ 2 or 3 pairs. Leaflets 3 to 6 pairs, oblong, 1 to 2 lines long. Sepals free or nearly so . 283. *A. Mitchelli.*

Glabrous. Pinnæ 2 to 5 pairs. Leaflets 20 to 30 pairs, with a broad oblique base, 1 to 3 lines long. Calyx shortly toothed . . . . 284. *A. pentadenia.*

Glabrous. Pinnæ 1 pair. Leaflets 4 to 6 pairs, above 3 lines long. Flowers large, 4-merous, 3 to 8 in the head . . . 285. *A. Gilberti.*

Seeds transverse. No spines. Flower-heads globular. Petals usually striate. Pinnæ usually 1 or 2 pairs.

Glabrous. Leaflets 5 to 10 pairs, 3 to 5 lines long. Flowers 20 or more in the head . . . . 286. *A. nigricans.*

Branches pubescent or hirsute. Flowers 12 to 15 in the head.

Leaflets 5 to 10 pairs, 2 to 3 or rarely 4 lines long . . . 287. *A. obscura.*

Leaflets 1 to 4 pairs, 1 to 2 lines long . . . . 288. *A. strigosa.*

Seeds transverse. No spines. Flower-spikes cylindrical or rarely ovoid. Petals smooth. Pinnæ 2 pairs. Leaflets 2 to 6 pairs . 289. *A. Drummondii.*

(Branches of 292, *A. Bidwilli* and of 293, *A. pallida*, are sometimes almost or quite without stipular spines.)

Series XI. **Gummiferæ.**—*Leaves bipinnate. Stipules of some or all the leaves persistent and spinescent. Flower-heads globular, on solitary or clustered simple peduncles.*

Bracts small, close under the flower-heads.

Pinnæ 4 to 6 pairs. Leaflets small, 10 to 20 pairs. Pod thick, cylindrical or spindle-shaped, indehiscent, pithy between the seeds . . . . 290. *A. Farnesiana.*

Pinnæ 1 or 2 pairs. Leaflets small, 8 to 12 pairs. Pod narrow-linear, 2-valved . . . . 291. *A. suberosa.*

Bracts forming a little 4-lobed ring round the middle of the peduncle.

Pinnæ 15 to 25 pairs. Leaflets scarcely 1 line long. Flowers 4-merous. Pod coriaceous; valves slightly convex, striate lengthwise . . . . 292. *A. Bidwilli.*

Pinnæ 3 to 10 pairs. Leaflets 3 to 4 lines long. Flowers 5-merous . . . . 293. *A. pallida.*

Mimosa obliqua, Pers. Syn. ii. 261, not of Wendl. nor of Lam., a phyllodineous Australian *Acacia*, is insufficiently described to determine even to which series it belongs.

A. visneoides, Colla, Hort. Ripul. App. ii. 339, is described from a garden specimen in leaf only and is quite unrecognizable.

Numerous manuscript names of A. Cunningham's, F. Mueller's, and others, unaccompanied by descriptions, but quoted in G. Don's 'General System,' in my own papers in Hooker's 'London Journal of Botany,' i. 318, and in the 'Linnæa,' xxvi. 603, in F. Mueller's paper in the 'Journal of the Linnean Society,' iii. 114, in Seemann's work, 'Die in Europa eingeführten Acacien,' 1852, in Steudel's 'Nomenclator,' or in garden catalogues, are here omitted as unpublished.

Division I. *PHYLLODINEÆ.*

Leaves all (except on young seedlings and occasionally one or two on young branches) reduced to *phyllodia*, that is to the petiole either terete or angular or more or less vertically dilated so as to assume the appearance of a rigid simple leaf, with an upper and a lower edge or margin, and two lateral similar surfaces, and either sessile or contracted at the base into a short petiole, the upper edge often bearing 1, 2, or rarely 3 or more shield-shaped or tubercular or depressed glands.

Series I. Alatæ.—Phyllodia bifariously decurrent, forming 2 opposite wings to the stem, the free part either short broad and acute, or rigid and pungent-pointed. Flowers in globular heads, on axillary simple peduncles, the heads rarely appearing racemose by the reduction of the flowering branches.

This series differs from the *Continuæ* by the phyllodia always distichous, much more decurrent, and often reduced apparently to lobes or teeth of the wings. A few other species, such as *A. complanata*, have flattened stems, but the phyllodia are distinctly articulate on the node.

1. **A. (?) bossiæoides,** *A. Cunn. Herb.*; *Benth. in Hook. Lond. Journ.* i. 323; *not of Seem.* A tall shrub, glabrous and glaucous, apparently allied to *A. alata*, but somewhat doubtful, the flowers and fruits being unknown. Phyllodia short, triangular, bifarious and decurrent along the stem, each one continued beyond the next below, forming continuous opposite wings, the axillary buds thus removed to 2 or 3 lines from the stem in the centre, as in some species of *Brachysema* and *Bossiæa*, but the venation is that of the winged *Acacias.* Stipules small, lanceolate, oblique and almost semi-sagittate at the base.

N. Australia. Liverpool river, N.W. coast, *A. Cunningham.* A very remarkable species, originally published as an *Acacia*, on the authority of Cunningham, which I now regret, although I know of no other genus to which it is likely to belong.

2. **A. glaucoptera,** *Benth. in Linnæa*, xxvi. 604. A much-branched, glabrous and glaucous shrub. Phyllodia erect, bifarious, oblong-falcate, decurrent along the stem, each one continued to the next below, but not beyond, forming opposite wings, notched at each node, where the axillary bud is sessile on the stem; the free part of the phyllodium from $\frac{3}{4}$ to $1\frac{1}{2}$ in. long, and 3 to 4 lines broad at the base, with a central prominent nerve. Stipules small, rigid, but not spinescent. Peduncles solitary or 2 together, under $\frac{1}{2}$ in. long, bearing each a globular compact head of very numerous (above 30) small flowers, mostly 5-merous. Sepals distinct, linear-spathulate, scarcely half as long as the corolla. Petals distinct, rather narrow, smooth. Pod not seen.—*A. bossiæoides*, Seem. Eingef. Acac. t. 1, not of A. Cunn.

W. Australia. Towards Cape Riche, *Drummond, 5th Coll. n.* 1, and in leaf only, *4th Coll. n.* 1; Clay flats, Fitzgerald, Gardner and Phillips ranges, *Maxwell.*

3. **A. alata,** *R. Br. in Ait. Hort. Kew. ed.* 3, v. 464. A tall shrub, attaining 5 or 6 ft. or more, but flowering when only 1 or 2 ft. high, glabrous or more or less hirsute. Phyllodia falcate-ovate, erect or spreading, bifariously decurrent along the stem, each one continued to the next below, but not beyond, forming opposite wings, notched at each node, varying in breadth from 1 or 2 lines to $\frac{1}{2}$ in., the free part, in the ordinary form, about $\frac{1}{2}$ to $\frac{3}{4}$ in. long, usually with a gland-bearing angle on the upper edge, the central nerve terminating in a pungent point. Stipules spinescent. Peduncles solitary or 2 together, bearing each a globular head of about 6 to 12 comparatively large flowers, mostly 5-merous. Bracts ovate, sessile. Calyx sometimes minute, sometimes nearly one-third as long as the corolla, broad, more or less lobed. Petals 5, smooth, united to the middle. Pod stipitate, oblong-falcate or lanceolate, acuminate, incurved, with thickened margins, glabrous or hirsute; valves convex. Seeds ovate, transverse, the funicle with few short folds, the last thickened into a small aril.—Wendl. Comm.

Acac. t. 1; Bot. Reg. t. 396; DC. Prod. ii. 448; Colla, Hort. Ripul. t. 17; Reichb. Ic. et Descr. Pl. t. 88, f. 1; Meissn. in Pl. Preiss. i. 4.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Fraser*, and others; Swan and Canning rivers, *Oldfield*, *Preiss*, *n.* 937, *Drummond*, *1st Coll. n.* 306 *and* 307.

Var. *platyptera*, Meissn. Phyllodia larger narrower and more distant, recurved at the end and scarcely pungent.—*A. platyptera*, Lindl. Bot. Reg. 1841, Misc. 3; Bot. Mag. t. 3933; *A. uniglandulosa*, Seem. and Schmidt, in Flora, 1844, 495. Raised from Drummond's seeds.

Var. *biglandulosa.* Phyllodia short, broad, coriaceous, mostly with 2 or sometimes 3 gland-bearing angles or teeth on the upper edge. Amongst Oldfield's and other specimens.

4. **A. diptera,** *Lindl. Swan Riv. App.* 15. A glabrous and glaucous or pubescent shrub, with virgate branches, more slender and elongated than in *A. alata.* Phyllodia few, distant, bifariously decurrent, forming long opposite wings, sometimes very narrow, sometimes 2 to 4 lines broad, the free part falcate, varying from a minute tooth to ¾ in. in length, the nerve close to the upper edge, which has no gland. Stipules minute or none. Peduncles slender, solitary or 2 together in the axils, or appearing racemose from the flowering branch being reduced to a slender leafless rhachis, bearing each a globular head of about 20 flowers, mostly 5-merous. Calyx very small, shortly lobed. Petals united at the base, slightly striate. Pod stipitate, slightly falcate, flat with nerve-like margins, about 2 in. long and 4 lines broad, but not quite ripe in our specimens. Seeds transverse.—Hook. Ic. Pl. t. 369; Meissn. in Pl. Preiss. i. 4; *A. Willdenowiana*, Wendl. Verz. K. Berggart. 1845, 5, according to Seem. Eingef. Acac. 9.

W. Australia. Swan River, *Drummond*, *1st Coll.*, *Preiss*, *n.* 995, 996, and others; Vasse river, *Mrs. Molloy*, *Oldfield*; Gordon plains, *Oldfield*; northward to Moore and Murchison rivers, *Drummond*, *6th Coll. n.* 3, and southward to Mount Wuljenup, *Preiss*, *n.* 393, and Cheynes Beach, *Maxwell*.

Var. *erioptera*, Grah. in Bot. Mag. t. 3939. Pubescent. Flowers rather large.—Swan River, *Drummond*.

5. **A. stenoptera,** *Benth. in Hook. Lond. Journ.* i. 325. A rigid undershrub or low bushy shrub, quite glabrous or slightly scabrous. Phyllodia bifariously decurrent, forming long opposite wings, 1½ to 2 or even 3 lines broad, the free part lanceolate or linear-falcate, rigid, tapering to a pungent point, 1-nerved, without marginal glands. Stipules small, not pungent. Peduncles under ½ in. long, bearing each a head of 6 to 10 flowers, larger than in *A. alata* and mostly 4-merous. Calyx less than half as long as the corolla, shortly lobed. Petals rather rigid and strongly striate. Pod only seen unripe, very much falcate, acuminate, ½ in. broad in the middle, narrowed into a stipes of nearly 1 in., and apparently very convex, with a longitudinal wing on each side of each suture.—Meissn. in Pl. Preiss. i. 5, ii. 199.

W. Australia. Swan River to King George's Sound, *Fraser*, *Drummond*, *2nd Coll. n.* 145 *and* 146, *Preiss*, *n.* 991 *and* 992, and others; Vasse river, *Mrs. Molloy*. The flowers and fruit are nearly those of *A. tetragonocarpa*, but the habit and phyllodia are very different.

Series II. Continuæ.—Phyllodia narrow, rigid, tapering into a pungent point, continuous with the stem and shortly and trifariously or irregularly decurrent. Flowers in heads or spikes, on axillary simple peduncles.

This small series connects the *Alatæ* with several others, and I had much doubt whether it would be most convenient to unite the species with *Alatæ* as in my former papers, or with *Pungentes*, with which they more generally agree, or distribute them into several of the series, placing *A. incurva* and *A. trigonophylla* in the *Alatæ*, *A. continua* in the *Pungentes*, *A. Peuce* in the *Calamiformes*, and *A. triptera* in the *Julifloræ*, but on the whole it appeared to me that these large series remain better defined, if the *Continuæ* are collected into a small intermediate group.

6. **A. incurva,** *Benth. in Hook. Lond. Journ.* i. 325. A rigid shrub of 1½ to 2 ft., glabrous or slightly scabrous. Phyllodia continuous with the stem and shortly and trifariously decurrent, linear or linear-lanceolate, incurved or recurved, mostly 1½ to 2 in. long, rigid and tapering into a pungent point, 1-nerved, without marginal glands. Stipules minute or shortly setaceous. Flower-heads globular, mostly solitary and almost sessile, containing 4 to 8 flowers, mostly 4-merous. Calyx very short. Petals membranous, not striate, the buds very angular. Pod unknown.—Meissn. in Pl. Preiss. i. 5.

W. Australia. Vasse river, *Mrs. Molloy*; sandy plains, near Erwin, *Preiss, n.* 990.

Var. *brachyptera.* Phyllodia divaricate, under ½ in. long.—*A. brachyptera*, Benth. in Hook. Lond. Journ. i. 325. King George's Sound, *A. Cunningham*; near Mount Desmond, *Maxwell*, also *Oldfield.*

7. **A. trigonophylla,** *Meissn. in Pl. Preiss.* ii. 199. A rigid glabrous shrub, resembling at first sight the coarse specimens of *A. incurva*, but with very different flower-heads. Phyllodia continuous and shortly decurrent, linear-lanceolate, spreading or recurved, rigid and tapering into a pungent point, often 1 to 1½ in. long and 1 to 2 lines broad, with one nearly central nerve. Peduncles solitary, ¼ to ½ in. long, bearing each a globular compact head of 40 to 50 or more flowers, mostly 5-merous. Calyx nearly half as long as the corolla, splitting into linear-cuneate sepals. Petals rather thick, with prominent midribs. Pod straight, flat with thickened margins, 2 or 3 in. long, 2½ lines broad, much contracted between the seeds. Seeds not seen, but evidently longitudinal.—*A. pteroclada*, F. Muell. Fragm. iv. 3.

W. Australia, *Drummond, 2nd Coll. n.* 144; dense thickets in gravelly soil, Champion Bay, *Walcott.*

8. **A. continua,** *Benth.* A rigid shrub of 1 to 2 ft., glabrous in all its parts, the young branches angular-striate. Phyllodia continuous with the stem and usually shortly decurrent, nearly terete, rigid, tapering into pungent points, with several raised nerves disappearing with age, the lower ones often 1 to 2 in. long and erect, the upper ones much shorter, spreading or recurved, or even reduced to short spines. Peduncles usually very short, bearing each a globular head of above 30 flowers, mostly 5-merous. Outer bracts broadly cuneate, inner ones small. Sepals spathulate, distinct, about half as long as the corolla. Petals smooth, at length free. Pod flat, much curved or twisted, about 2 lines broad.—*A. colletioides*, F. Muell. Pl. Vict. ii. 5, not of A. Cunn.

Victoria. Ridges of the Murray desert, *F. Mueller.*

S. Australia. Ranges and scrubs, from the Murray to St. Vincent's and Spencer's Gulfs and Mount Remarkable, *F. Mueller*; Lake Gilles, *Burkitt.*

I had, in the 'Linnæa,' xxvi. 609, followed F. Mueller in referring this to *A. colletioides*, of which it has the pod, but I find, on further examination, that the character of the phyllodia, continuous not articulate on the stem, now pointed out by F. Mueller, does not exist in Cunningham's plant, which has moreover a different venation.

9 (?). **A. Peuce,** *F. Muell. Fragm.* iii. 151. A tree of 15 to 30 ft., with the aspect of a Pine, quite glabrous and somewhat glaucous. Phyllodia rather crowded, not articulate, but very shortly decurrent on the stem, subulate-terete, rigid, tapering into pungent points, mostly 2 to 3 in. long or rather more, straight and erect, with few slightly prominent nerves. Stipules very minute and deciduous. Flowers . . . Pod (from a single imperfect one) very flat, glaucous, several in. long and nearly 1½ in. broad. Seeds broadly ovate, flat, the funicle filiform to the end.

N. Australia. N. of Will's Creek, *Howitt's Expedition.* The pod is not attached to the specimen, and closely resembles that of *A. sericata*, and some doubt therefore attaches itself to the species.

10. **A. triptera,** *Benth. in Hook. Lond. Journ.* i. 325. A dense rigid shrub of 3 or 4 ft., quite glabrous. Phyllodia numerous, lanceolate, recurved-falcate, decurrent on the stem, rigid and tapering into a pungent point, ½ to 1 in. long, striate with several prominent nerves, without any marginal gland. Stipules scarcely any. Peduncles short, solitary or 2 together, bearing each a cylindrical spike of ½ to ¾ in. Flowers not crowded, very small and globular in the bud, mostly 4-merous. Calyx short, broad, lobed. Petals membranous and smooth. Pod unknown.

Queensland. Sandstone ridges, Mantuan Downs, *Mitchell*; on the lower Macquarrie, *Bowman*, also in *Leichhardt's Collection.*

N. S. Wales. Barren lands, N. of Arbuthnot Range, *Fraser.*

SERIES III. PUNGENTES.—Rigid shrubs, the branches in some species spinescent. Phyllodia articulate on the stem, rigid, tapering into pungent points, usually subulate linear or lanceolate, or rarely none. Flowers in heads or spikes, on axillary simple peduncles.

The pungent phyllodia give these species in general so peculiar a habit, that it appeared more convenient to unite them in a separate group than to distribute them in the great series founded on venation and inflorescence, at the same time it must be admitted that, in a few species, the pungent character is variable. On the other hand, the adoption of the two series *Pungentes* and *Calamiformes* disposes of those terete-leaved species where the venation is uncertain, and of *A. verticillata*, where the spicate passes into the globular inflorescence.

A. APHYLLÆ.—Phyllodia none except minute scales. Branches spinescent.

The general aspect of this single species is so much that of the *Pungentes*, that it is placed here, although no phyllodia appear on any of the specimens seen. The two other species formerly described as aphyllous, occasionally produce a few branch-like phyllodia, which indicate their place amoog *Calamiformes.*

11. **A. spinescens,** *Benth. in Hook. Lond. Journ.* i. 323. A glabrous, rigid, bushy, diffuse shrub, rarely exceeding 2 ft., the branches terete, striate and mostly spinescent. Leaves none, replaced on the young shoots by small brown decidous scales. Flower-heads globular, sessile along the branches, containing 2 to 6 flowers, mostly 5-merous. Calyx truncate, shortly and

broadly toothed, about half as long as the corolla. Petals free, striate. Pod shortly stipitate, linear, curved, flat with slightly thickened margins, about $1\frac{1}{2}$ lines broad; valves convex over the seed and contracted between them. Seeds longitudinal, the funicle expanded into a broadly clavate lateral aril, and scarcely folded below it.—F. Muell. Pl. Vict. ii. 3.

N. S. Wales. In the S.W. interior, *Fraser.*

Victoria. Desert tracts of the N.W. of the colony, *F. Mueller.*

S. Australia. Memory Cove, *R. Brown;* Encounter Bay, *Whittaker;* Murray desert, Onkaparinga river, Barossa ranges and towards St. Vincent's Gulf, *F. Mueller.*

B. PLURINERVES.—Phyllodia 2- or more nerved, or terete and nerveless. Heads globular.

Where the phyllodia are terete and 2-nerved, the total number of apparent nerves is 6, 2 on each side, and the 2 nerve-like edges of the phyllodium nearly equally prominent.

12. **A. latipes,** *Benth. in Hook. Lond. Journ.* i. 334. A glabrous rigid shrub, very nearly allied to *A. cochlearis*, and perhaps a variety, differing chiefly in the thick rigid phyllodia more divaricate, and attached by a broad base, rarely 1 in. long, about 1 line broad, with 3 or 4 prominent nerves as in that species. Peduncles about 1 to 2 lines long, bearing a globular head of 30 to 40 or more flowers, mostly 5-merous. Sepals narrow-linear, with spathulate concave tips. Petals rather firm, smooth, united above the middle. Pod not seen.

W. Australia. Swan River, *Drummond;* Darling range, *Oldfield.*

13. **A. cochlearis,** *Wendl. Comm. Acac.* 15. A rigid shrub of several ft., glabrous and often somewhat viscid, or the young shoots woolly-pubescent. Phyllodia linear or linear-lanceolate, rigid, tapering into a pungent point, 1 to $1\frac{1}{2}$ or rarely 2 in. long, rarely above 2 lines broad, more or less narrowed at the base, with 3 or 4 not very prominent nerves on each side. Peduncles solitary or 2 together, 2 to 3 lines long or rarely more, bearing a globular head of numerous (above 30) flowers, mostly 5-merous. Sepals narrow, spathulate, free. Petals smooth, free. Pod about 1 to 2 in. long, 2 lines wide, flat with thickened margins. Seeds longitudinal, the funicle thickened at the end, but not seen perfect.—DC. Prod. ii. 451; Meissn. in Pl. Preiss. i. 11; *Mimosa cochlearis*, Labill. Pl. Nov. Holl. ii. 85, t. 234; *A. eglandulosa*, DC. Mem. Leg. 445; Prod. ii. 450 (from the diagnoses given).

W. Australia. King George's Sound to Vasse and Swan rivers, *Labillardière, Wakefield, Drummond, 1st Coll. and 2nd Coll. n.* 139, *Preiss, n.* 933 *and* 949, and others.

A. Benthamii, Meissn. in Pl. Preiss. i. 11, ii. 202, is a slight variety, quite glabrous, with narrower phyllodia; *A. heteroclita,* Meissn., is nearly allied, but has much less pungent phyllodia, with the points usually recurved, and 2 or 3 prominent nerves, and is therefore placed amongst *Plurinerves oligoneuræ.*

14. **A. lanigera,** *A. Cunn. in Field, N. S. Wales,* 345. A rigid shrub of several feet, the young shoots usually woolly-pubescent. Phyllodia linear or lanceolate, rigid, tapering into a pungent point, 1 to $1\frac{1}{2}$ or rarely 2 in. long, mostly 2 to 3 lines broad, with several nerves, occasionally anastomosing or all parallel. Peduncles exceedingly short, solitary, 2 together or almost clustered, bearing a globular head of about 30 flowers, mostly 5-merous. Calyx campanulate, with broad obtuse lobes, not half as long as the corolla. Petals smooth, united to the middle. Pod attaining 6 to 8 in.

in length, and 4 or even 5 lines in breadth at the seeds, much contracted between them; the valves slightly convex. Seeds longitudinal, last short fold of the funicle and the end of the next much thickened, the remainder of the latter and the third fold filiform and extending some way round the seed, but not seen perfect.—Bot. Mag. t. 2922.

N. S. Wales. Frequent in rocky barren ranges of the interior, from the Blue Mountains to Liverpool plains, Lachlan river and to the southward, *A. Cunningham*, *Fraser*, *Huegel*, *Mitchell*, and others.

Victoria. Forest Creek, *F. Mueller.*

Var. *gracilipes.* Peduncles rather longer, although shorter than in *A. trinervata.*

The species has much the aspect of *A. cochlearis*, but has a very different calyx and pod. *A. multinervia*, DC. Mem. Leg. 445, Prod. ii. 450, answers, in the short character given, to *A. lanigera*, with the exception of the gland on the upper edge of the phyllodium which I do not find in that or any other allied species known to me.

15. **A. phlebocarpa,** *F. Muell. in Journ. Linn. Soc.* ii. 119. A glabrous somewhat viscid shrub of 2 to 5 ft.; branches nearly terete. Phyllodia narrow-lanceolate, rigid, tapering into a pungent point, 1 to 1½ in. long, mostly 2 to 3 lines broad, narrowed at the base, with several parallel nerves occasionally anastomosing, 1 to 3 more prominent. Stipules small. Peduncles solitary, attaining ½ in. when in fruit. Flowers 5-merous, but only seen withered. Calyx turbinate, lobed, half as long as the corolla. Petals apparently striate. Pod curved, hard, rather flat, with much thickened margins and obliquely veined between them, depressed between the seeds. Seeds rounded, compressed, oblique; funicle with the last 2 or 3 folds much dilated into a cup-shaped apparently 2-lobed aril, enclosing the base of the seed.

N. Australia. Rocky places at the sources of Seven Emu river, Gulf of Carpentaria, *F. Mueller.* The species appears to be closely allied to *A. lanigera.*

16. **A. trinervata,** *Sieb. in DC. Prod.* ii. 451. A tall shrub, glabrous or the young shoots slightly pubescent, branches angular. Phyllodia linear, spreading, thick, rigid, tapering into pungent points, 1 to 1½ in. long or rarely all under 1 in., 2- or 3-nerved, slightly contracted at the base. Stipules minute. Peduncles solitary, about ½ in. long, slender, bearing each a small globular head of numerous small flowers, mostly 5-merous. Calyx about half as long as the corolla, very thin, irregularly toothed or lobed. Petals smooth, united to the middle. Pod straight or scarcely curved, flat with scarcely thickened margins; attaining 3 to 5 in. in length, 1 to 1½ or rarely 2 lines broad. Seeds oblong, longitudinal, funicle dilated from the base into an almost membranous aril consisting of 3 or 4 folds.—*A. taxifolia*, A. Cunn. in Field, N. S. Wales, 344, not of Willd.; *A. Cunninghamii*, G. Don, Gen. Syst. ii. 404.

N. S. Wales. Grose river, *R. Brown*; Blue Mountains, *Sieber, n.* 445, *A. Cunningham*, and others.

Var. *brevifolia.* Phyllodia ½ to ¾ in. long.—*A. genistifolia*, Link, Enum. Hort. Berol. ii. 442 (?); Benth. in Hook. Lond. Journ. i. 355. The character given by Link applies nearly as well to some forms of *A. juniperina.*

Var. *angustifolia.* Phyllodia very narrow, with the 2 or 3 nerves scarcely prominent, but shorter than in *A. elongata*, and always pungent.—Blue Mountains, *Miss Atkinson.*

17. **A. colletioides,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 336. A very rigid shrub, the branches terete or nearly so and glabrous. Phyllodia

very spreading, linear-terete or slightly compressed, rigid, tapering into pungent points, striate with several nerves, distinctly articulate at the base as in the allied species, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long. Stipules small, membranous or none. Peduncles solitary, not above 2 lines long, bearing each a small globular head of very small 5-merous flowers. Sepals linear-spathulate, distinct, at least half as long as the corolla. Petals distinct, smooth, without prominent midribs. Pod linear, flat, the margins not thickened, curved or twisted, about 2 to $2\frac{1}{2}$ lines broad and slightly contracted between the seeds. Seeds longitudinal, the 2 or 3 last folds of the funicle dilated into a yellow cupular arillus, membranous at the edge and half enclosing the seed.

N. S. Wales. Harrington plains in the interior, *A. Cunningham*, specimens in fruit only.

Var. *nyssophylla.* Nerves of the phyllodia scarcely prominent but not otherwise differing from A. Cunningham's specimens.—*A. nyssophylla*, F. Muell. Fragm. iv. 1, and Pl. Vict. ii. 9.

Victoria. In the N.W. desert, *F. Mueller.*

S. Australia. Near Lake Gairdner, *Babbage.*

I had formerly confounded specimens of this variety with some of those of *A. continua*, but F. Mueller has well pointed out the character of the continuous decurrent phyllodia distinguishing the latter.

18. **A. striatula,** *Benth. in Hook. Lond. Journ.* i. 336. A rigid shrub, allied to *A. colletioides* and *A. campylophylla.* Branches slightly angular and minutely pubescent. Phyllodia spreading or recurved, linear-terete or slightly compressed, rigid and tapering into pungent points, in our specimens mostly about $\frac{1}{2}$ in. long, but probably often longer, striate with several nerves. Stipules small, lanceolate, membranous, very deciduous. Peduncles short, bearing each a small globular head of rather numerous flowers, mostly 5-merous. Sepals free, very thin, linear-spathulate. Petals smooth, but with prominent midribs as in *A. juniperina.* Pod unknown.—Meissn. in Pl. Preiss. ii. 201.

W. Australia, *Drummond;* South Hutt river, *Oldfield.*

19. **A. campylophylla,** *Benth. in Linnæa*, xxvi. 605. A rigid bushy shrub, apparently low, and quite glabrous, branches angular. Phyllodia numerous, linear-terete, rigid but recurved or flexuose, tapering into pungent points, mostly $\frac{3}{4}$ to 1 in. long, striate with several nerves. Stipules small, setaceous, almost spinescent. Flowers not seen perfect, but from their remains they appear to have been many in the head, with narrow smooth petals. Fruiting peduncles $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Pod stipitate, linear, narrow, flat with nerve-like margins, and not contracted between the seeds, but not seen full-grown.

W. Australia, *Drummond, 4th Coll. n.* 134, *and n.* 41, of some other set. Evidently allied to *A. colletioides*, but differing in the stipules, and apparently in the pod.

20. **A. teretifolia,** *Benth. in Hook. Lond. Journ.* i. 326. A glabrous shrub of 1 or 2 ft., with virgate angular-striate branches, the smaller branchlets rigidly flexuose. Phyllodia linear-terete or scarcely flattened, rigid but less pungent than the allied species, $\frac{3}{4}$ to 1 or rarely $1\frac{1}{2}$ in. long, very obscurely or irregularly nerved. Stipules shortly subulate-spinescent, but soon wearing off. Peduncles solitary, shorter than the phyllodia, bearing each a globular head of flowers, mostly 5-merous. Sepals small, narrow-linear, united at the

base only. Petals linear-spathulate, concave and thick at the top, giving the buds a peculiar turbinate truncate shape. Pod (only seen in Herb. Sonder.) sessile, linear, incurved, terete or compressed at right angles to the valves, acuminate and narrowed at the base, 2 to 4 in. long, hard and quite smooth, neither contracted between the seeds nor showing prominent sutures. Seeds not seen.—Meissn. in Pl. Preiss. i. 6, ii. 200.

W. Australia, *Drummond, 2nd Coll. n.* 140; Swan and Canning rivers, *Preiss, n.* 975 *and* 998; Gordon river, *Oldfield.* -Resembles sometimes *A. genistoides* and *A. ericifolia*, but the pod is totally different, the phyllodia, although often sulcate, have no prominent nerve, and the stipules are usually more or less spinescent.

21. **A. sulcata,** *R. Br. in Ait. Hort. Kew. ed.* 3, v. 460. A dense bushy shrub, attaining sometimes several ft., quite glabrous, the branches slightly angular. Phyllodia usually crowded, linear-terete, incurved, with a short pungent point, ½ to 1 in. long, deeply sulcate-striate. Stipules minute. Peduncles usually 2 together, rather shorter than the phyllodia, bearing each a globular head of about 10 to 15 flowers, mostly 5-merous. Sepals distinct, linear-spathulate, not half as long as the corolla. Petals smooth, without prominent midribs, completely separating. Pod flat, but very flexuous, much curved or twisted, rarely above 1 in. long, 1½ to 2 lines broad. Seeds nearly orbicular; funicle very shortly filiform and folded at the base, dilated into a cup-shaped fleshy arillus under the seed. DC. Prod. ii. 450; Bot. Reg. t. 928; Wendl. Comm. Acac. t. 10; Meissn. in Pl. Preiss. i. 11.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Drummond, 5th Coll. n.* 3, *Preiss, n.* 978, and others, and eastward to E. Mount Barren, *Maxwell.* Some specimens appear almost to pass into *A. ericifolia* and its allies amongst *Calamiformes.*

22. **A. costata,** *Benth. in Hook. Lond. Journ.* i. 339. A low shrub, with thick rigid striate often spinescent branches, pubescent or glabrous. Phyllodia narrow-lanceolate, 2 to 4 lines long, very rigid and thick, tapering into pungent points, the upper edge convex but without any gland, both margins thick and nerve-like. Stipules minute, setaceous. Peduncles rather short, bearing each a globular head of about 10 to 15, 5-merous flowers. Calyx small, deeply lobed or at length separating into distinct ciliate acute sepals. Petals rigid, striate, united at the base. Pod not seen.

W. Australia. Swan River, *Drummond, 1st Coll.*; Darling range, *Oldfield.* Some specimens of Drummond's have much resemblance to this, with the same spinescent branches, but the phyllodia are occasionally slightly angular, and the flowers are nearer those of *A. divergens.*

23. **A. barbinervis,** *Benth. in Hook. Lond. Journ.* i. 326. A low shrub, often under 1 ft., usually loosely pubescent with short spreading hairs, the branches angular. Phyllodia linear-falcate, recurved, rigid, tapering into a pungent point, ½ to 1 in. long or the lower ones shorter and broader, with very prominent nerve-like margins. Stipules very small, setaceous, sometimes spinescent. Peduncles shorter than the phyllodia, bearing each a globular head with usually 8 to 10, rarely 12 to 15, mostly 5-merous flowers. Calyx broad, shortly toothed, ciliate, not half so long as the corolla. Petals thick and prominently striate. Pod not seen.—Meissn. in Pl. Preiss. i. 7.

W. Australia. Swan River, *Drummond, 1st Coll.*; *Preiss, n.* 988.

24. **A. ataxiphylla,** *Benth. in Linnæa*, xxvi. 605. A low rigid undershrub or shrub, the branches prominently and acutely angled, the young shoots hoary-pubescent but soon glabrous. Phyllodia linear or subulate, rigid but flexuose, tapering into a hooked pungent point, 1½ to 2 in. long, with a very prominent nerve on each side. Stipules small, setaceous or pungent. Peduncles scarcely ½ in. long, bearing each a globular head of 20 to 30 or more flowers, mostly 5-merous. Calyx deeply and acutely lobed, less than half as long as the corolla. Petals thick and more or less prominently striate or veined. Pod not seen.

W. Australia, *Drummond, 4th Coll. n.* 6.

25. **A. Baxteri,** *Benth. in Hook. Lond. Journ.* i. 327 (misspelt *Bagsteri*). A glabrous rigid shrub, branches prominently and acutely angled or striate. Phyllodia linear oblong or lanceolate, somewhat recurved-falcate, very rigid and tapering into a pungent point, ½ to 1 in. long, with very thick nerve-like margins, the lower one sometimes slightly within the edge. Stipules setaceous, at length deciduous. Peduncles short, solitary or 2 or 3 together, bearing each a globular head of numerous (above 40) flowers, mostly 5-merous. Sepals distinct, linear-spathulate, thickened at the end, half as long as the corolla. Petals quite smooth. Pod not seen.

W. Australia. S. coast, *Baxter;* Salt river, *Maxwell.* The aspect is nearly that of *A. auronitens* or of some varieties of *A. siculiformis.* It also resembles *A. crassistipula,* but without the leafy stipules of that species.

C. UNINERVES.—Phyllodia with 1 nerve on each side, central or nearly so. Flowers in globular heads.

When the phyllodia are very narrow they are usually 4-gonous, the four angles formed by the upper and lower nerve-like margins and by one nerve on each side.

26. **A. auronitens,** *Lindl. Swan Riv. App.* 15. A rigid bushy shrub, the branches nearly terete and usually shortly hirsute. Phyllodia numerous, rigid, glabrous, linear-oblong, oblique or curved, tapering into a pungent point and narrowed at the base, mostly about ½ in. long, with a nearly central nerve, and scarcely thickened nerve-like margins. Stipules short, setaceous or pungent. Peduncles nearly as long as the leaves, bearing each a globular head of about 15 to 20 flowers, mostly 5-merous. Sepals distinct, linear-spathulate, very thin. Petals, soon separating, striate but not thick. Pod about 1 in. long, and 3 lines broad, straight, very thick, not contracted between the seeds, with very broad smooth margins, and obscurely veined between. Seeds thick, obovoid; funicle short, not folded, expanding into a short broad concave aril at the end of the seed.

W. Australia. Swan River, *Drummond, 1st Coll.;* also *4th Coll. n.* 7.

27. **A. quadrisulcata,** *F. Muell. Fragm.* iii. 127. A rigid straggling shrub, the branches terete, slightly viscid-pubescent, at length glabrous. Phyllodia narrow-linear, almost tetragonous, the single nerve on each side very prominent, very rigid and tapering into a pungent point, ¾ to 1½ in. long. Stipules minute. Peduncles solitary, shorter than the phyllodia, bearing each a globular head of 15 to 20 flowers, mostly 5-merous, but occasionally 6-merous. Sepals distinct, very small and narrow, linear-spathulate. Petals striate, united above the middle. Pod straight or slightly curved, 1 to 1½

in. long, nearly 3 lines broad, very thick, with broad smooth margins and obscurely veined between them. Seeds thick, obovoid-globose, often mottled; funicle short, not folded, expanding into a short broad concave arillus at the end of the seed.

W. Australia. Murchison river, *Oldfield*. Differs from *A. auronitens* chiefly in the form of the phyllodia.

28. **A. erioclada,** *Benth. in Linnæa*, xxvi. 606. A rigid spreading shrub, the branches numerous, not very stout, mostly spinescent and densely woolly, becoming glabrous with age. Phyllodia narrow-oblong, oblique or curved, rigid and tapering into a pungent point, under $\frac{1}{2}$ in. long, narrowed at the base, the midrib and nerve-like margins prominent, and sometimes with a faint nerve between. Stipules setaceous, sometimes spinescent, deciduous. Peduncles 2 to 3 lines long, bearing each a globular head of above 30 flowers, much smaller than in the last two species, mostly 5-merous. Sepals spathulate with a dark thickened top, but often united. Petals quite smooth. Pod not seen.

W. Australia, *Drummond*, 4*th Coll. n.* 7; Vasse river, *Oldfield*.

29 **A. siculiformis,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 387. An erect or diffuse rigid glabrous shrub, attaining several ft., the branches nearly terete. Phyllodia linear or linear-lanceolate, oblique or slightly curved, rigid and tapering into a pungent point, $\frac{1}{2}$ to $1\frac{1}{2}$ in. long, 1 to 2 lines broad, with a prominent central nerve and the margins sometimes slightly thickened, narrowed at the base. Stipules minute, membranous. Peduncles solitary, nearly $\frac{1}{2}$ in. long in the original form, bearing a globular head of numerous flowers, mostly 5-merous. Sepals free, narrow-spathulate, ciliate, half as long as the corolla. Petals smooth, shortly united at the base. Pod stipitate, oblong-linear, very flat, not contracted between the seeds when perfect, rarely above 1 in. long, $2\frac{1}{2}$ to 3 lines broad. Seeds transverse or oblique, the funicle filiform to the end.—F. Muell. Pl. Vict. ii. 6.

N. S. Wales. Rocky Hills S.W. of Lake George, *A. Cunningham*; Mount Mitchell, Clarence river, *Beckler*.

Var. *bossiæoides*, Benth. in Hook. Lond. Journ. i. 337. More diffuse, peduncles scarcely $\frac{1}{4}$ in. long or shorter.—*A. Stuartiana*, F. Muell.; Benth. in Linnaea, xxvi. 609; Hook. f. Fl. Tasm. i. 104. t. 19; Dietr. Fl. Univers. N. Ser. t. 82.

Victoria. Along subalpine streamlets in many parts of the Australian Alps, ascending to 5000 ft., *F. Mueller*. One specimen in a young state from the Tummut Valley has the long peduncles of the original form.

Tasmania. Derwent river, *R. Brown*; Western Mountains, and S. Esk and Derwent rivers at an elevation of 3000 to 4000 ft., *J. D. Hooker*.

30. **A. patens,** *F. Muell. in Journ. Linn. Soc.* iii. 120 (under *A. siculiformis*, to which I had erroneously referred it). A tall glabrous shrub, the branchlets somewhat glutinous. Phyllodia numerous, linear-lanceolate, rather rigid and tapering into a pungent point, narrowed at the base and often somewhat falcate, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, 1 to $1\frac{1}{2}$ lines wide, 1-nerved or obscurely penniveined, usually with a small gland near the middle of the upper edge. Stipules small, lanceolate. Peduncles often slightly exceeding the leaves, bearing each a dense globular head of flowers, mostly 5-merous, but only seen in bud. Sepals distinct, linear-spathulate, ciliate. Petals narrow, almost free.

Pod linear, straight, flat, 1 in. long or rather more, 1½ lines broad, and contracted between every seed. Seeds ovate, almost longitudinal; funicle filiform to the end.—*A. Maitlandi,* F. Muell. Fragm. iii. 46.

N. Australia. Stony places, Hammersley Range, Nichol Bay, *F. Gregory's Expedition;* Hooker and Sturt's Creeks, *F. Mueller.* The foliage and young flowers cannot be distinguished from those of some specimens of *A. sieuliformis,* but the pod is certainly different.

31. **A. laricina,** *Meissn. in Pl. Preiss.* i. 6. A bushy shrub of 1 to 2 ft., the branches nearly terete, rather slender, hoary-tomentose. Phyllodia numerous, recurved-spreading, narrow-linear, almost tetragonous from the very prominent nerve on each side, ½ to ¾ or rarely 1 in. long, with a short pungent point. Stipules setaceous, almost spinescent. Peduncles slender, shorter than the phyllodia, bearing each a small globular head of 15 to 20 small flowers, mostly 5-merous. Calyx turbinate, shortly toothed, about half as long as the corolla. Petals not striate, but with prominent midribs, usually cohering to the middle. Young pod narrow, glabrous or pubescent, incurved, acuminate and contracted at the base, not torulose, the sides very convex and marked with longitudinal prominent nerves.

W. Australia. In the interior, *Preiss, n.* 973, *Drummond, 3rd Coll. n.* 101, *4th Coll. n.* 5; E. Mount Barren, *Maxwell.*

32. **A. tetragonophylla,** *F. Muell. in Journ. Linn. Soc.* iii. 121 (under *A. sphacelata*), *and Fragm.* iv. 3. A tall spreading shrub or small tree, glabrous; branches terete. Phyllodia usually clustered on the old nodes, linear-subulate, rigid, pungent-pointed, ½ to 1 in. long or rarely more, with 1 or 2 nerves on each side. Stipules small, deciduous. Peduncles solitary or 2 together, nearly as long as the phyllodia, bearing a globular head of numerous (often above 50) 5-merous flowers. Sepals linear-spathulate, half as long as the corolla. Petals smooth, usually cohering to the middle. Pod much curved or twisted, flat with thickened margins, nearly 3 lines broad. Seeds longitudinal; funicle yellow, shortly flexuose and much thickened at the base, then completely encircling the seed in a single fold more or less dilated the whole length.

N. S. Wales. From the Darling to the Barrier Range, *Victorian and other Expeditions.*

S. Australia. Dry pastures on the Cudnaka, Flinders and Elders Ranges, *F. Mueller;* towards Spencer's Gulf, *Warburton.*

33. **A. genistoides,** *A. Cunn. Herb.* A tall glabrous shrub, very rigid and sometimes spinescent; branches terete or slightly angular. Phyllodia erect or scarcely spreading, linear-subulate, with a very prominent nerve on each side, shortly pungent-pointed, mostly rather above 1 in. long. Stipules small, fine-pointed, deciduous. Peduncles solitary or 2 together, slender, usually above ½ in. long, bearing each a very compact globular head of numerous small flowers, mostly 5-merous. Sepals free, narrow-linear, spathulate, more than half as long as the corolla. Petals smooth, with a prominent midrib. Pod somewhat incurved, 1 to 3 in. long, 2½ to 3 lines broad, the valves convex, not striate, slightly contracted between the seeds. Seeds ovate, longitudinal; funicle yellow, thickened almost from the base, nearly twice encircling the seed, one fold within the other without any return.

W. Australia. Dirk Hartog's Island, *A. Cunningham.* Sharks Bay, *Milne.* Murchison and S. Hutt rivers, *Oldfield.* Very nearly allied to *A. tetragonophylla*, and sometimes resembles *A. teretifolia*, but the stipules are not spinescent, the phyllodia are prominently 1-nerved, and the pod is quite different.

34. **A. sphacelata,** *Benth. in Hook. Lond. Journ.* i. 338. A rigid shrub, the branches not very stout, nearly terete, glabrous or pubescent. Phyllodia scattered, linear-subulate, erect or spreading, rigid and tapering into a pungent point, mostly ½ to ¾ in. long, with 1 or rarely 2 prominent nerves on each side. Stipules minute. Peduncles mostly solitary, short, bearing each a small globular head of 15 to 20 or more flowers, mostly 5-merous. Sepals distinct, linear-spathulate, with dark tips, half as long as the corolla. Petals free, smooth. Pod not seen.—Meissn. in Pl. Preiss. i. 12.

W. Australia, *Drummond,* 1*st Coll. n.* 299; Mount Currie, *Preiss, n.* 985 (which I have not seen).

Var. *sessilis.* Branches woolly. Flower-heads almost sessile. Pod, according to Meissner, linear, straight, flat, 1½ in long, 1½ lines broad, with thickened margins, woolly when young, at length glabrous. *A. sessilis,* Benth. in Hook. Lond. Journ. i. 336; Meissn. in Pl. Preiss. i. 11, ii. 202. Swan River, *Drummond,* 1*st Coll., Preiss, n.* 979, 980, 982; Murchison river, *Oldfield.*

Var. *retrorsa.* Phyllodia reflexed.—*A. retrorsa,* Meissn. in Bot. Zeit. 1855, 10.—Between Moore and Murchison rivers, *Drummond,* 6*th Coll. n.* 4.

Some specimens have almost the aspect of *A. striatula,* but differ in their 1- or rarely 2-nerved phyllodia, and very short peduncles.

35. **A. ingrata,** *Benth.* Branches rigid, glabrous or minutely pubescent. Phyllodia divaricate or reflexed, very rigidly linear-subulate, with a rather broad base and tapering into a pungent point, rarely ½ in. long, with a prominent nerve on each side. Peduncles short, solitary or 2 together, bearing each a small globular head of about 5 or 6 flowers, mostly 5-merous. Calyx very short and broad, thin, slightly sinuate-toothed. Petals smooth, without raised midribs, cohering at the base. Pod unknown.

W. Australia. E. Mount Barren, *Maxwell* (*Herb. F. Mueller*). The specimens are insufficient for a satisfactory description, they have some resemblance to some forms of *A. juniperina,* but the flowers are different.

Some small specimens of Drummond's, alluded to above under *A. costata,* look much like *A. ingrata* also, and have the same flowers, only rather more numerous in the head, but the branches are spinescent and the phyllodia have the very thick margins of *A. costata,* and occasionally the upper one has an angle as in *A. horridula,* but the flowers differ from those of either of the latter species. A small specimen from Murchison river, *Oldfield,* without flowers, has the foliage nearly of *A. ingrata* and a single pod, very thick and hard as in *A. auroniteus,* but longer and rather narrower, without the distinct broad margin of that species.

36. **A. juniperina,** *Willd. Spec. Pl.* iv. 1049. A rigid bushy divaricate shrub, attaining several feet, the branches pubescent or in some varieties glabrous. Phyllodia scattered, often numerous, divaricate, linear-subulate, rigid and tapering into a pungent point, rarely above ½ in. long, with a prominent nerve on each side and a rather broad base. Peduncles often exceeding the leaves, bearing each a dense globular head of numerous (20 to 50) flowers, mostly 5-merous. Bracts more or less acuminate. Sepals narrow-spathulate, at first united but readily separating. Petals also separating, smooth but with prominent midribs. Pod more or less falcate, flat, 1 to 2

in. long, about 2 lines broad, usually contracted between the seeds. Seeds longitudinal, the funicle but little folded and filiform to the end.—*Mimosa juniperina*, Vent. Jard. Malm. t. 64; *M. ulicina*, Wendl. Coll. ii. 25, t. 6; *M. ulicifolia*, Salisb. Prod. 324?; *A. juniperina*, Lodd. Bot. Cab. t. 398; DC. Prod. ii. 449; Hook. f. Fl. Tasm. i. 105; F. Muell. Pl. Vict. ii. 7; *A. verticillata*, Sieb. Pl. Exs. not of Willd.; *A. echinula*, DC. Prod. ii. 449; *A. pungens*, Spreng. Syst. iii. 134.

Queensland. Moreton Island and Brisbane river, *F. Mueller.*

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, Sieber, n.* 447, 449, *and Fl. Mixt. n.* 602, and others; northward to New England, *C. Stuart*, and Clarence river, *Beckler;* southward to Twofold Bay, *F. Mueller.*

Victoria. Rocky, especially granitic hills, Mount Hunter, Corner Inlet, Mount Leger, Genoa river, Muddy Creek, Grampians, etc., *F. Mueller.*

Tasmania. Port Dalrymple, *R. Brown;* light sandy soil near George Town and West head, *J. D. Hooker.*

Var. *Brownei.* Branches glabrous; peduncles slender.—*A. acicularis*, R. Br. in Ait. Hort. Kew. ed. 3, v. 460, not of Willd.; altered to *A. pugioniformis* by Wendl. in Flora, 1819, 139, but not *A. pugioniformis*, Wendl. Comm.; *A. Brownii*, Steud.; DC. Prod. ii. 449; Lodd. Bot. Cab. t. 1333; *A. arceuthos*, Spreng. Syst. iii. 134.—Port Jackson, *Sieber, n.* 463 and others.

A. genistifolia, Link, Enum. Hort. Berol. ii. 442; DC. Prod. ii. 449, above referred with doubt to *A. trinervata*, may, from the very incomplete description given, be almost equally referable to some forms of *A. juniperina.*

37. **A. asparagoides,** *A. Cunn. in Field, N. S. Wales*, 343. A glabrous rigid shrub; branches nearly terete. Phyllodia spreading, linear-subulate, thick and rigid, tapering into a pungent point, ½ to ¾ in. long, with a prominent nerve on each side, and a scarcely prominent glandular angle at the base on the upper edge. Stipules minute. Flower-heads almost sessile, solitary, globular, with about 20 to 30 small flowers, mostly 5-merous. Sepals linear, slightly spathulate, cohering at first, but readily separating. Petals distinct, narrowed into a claw at the base, smooth, without any prominent nerve. Pod unknown.

N. S. Wales Rare on the rocky verge of Regent's Glen, Blue Mountains, *A. Cunningham.*

38. **A. tenuifolia,** *F. Muell. in Trans. Phil. Soc. Vict.* i. 37; *Pl. Vict.* ii. 8. A diffuse or procumbent shrub; branches terete, glabrous or pubescent. Phyllodia linear-subulate, rigid but slender, tapering into a pungent point, with a strong raised nerve on each side, rarely above ½ in. long. Stipules small, deciduous. Peduncles slender, shorter than the leaves, bearing each a globular head of about 20 small flowers, mostly 4-merous. Sepals free or united at the base only, small and narrow. Petals soon separating, smooth, the midrib scarcely prominent. Pod straight or curved, scarcely contracted between the seeds, 1 to 2 in. long and nearly 2 lines broad, the valves convex. Seeds ovate, longitudinal, the last short fold of the funicle and sometimes part of the next thickened into a small aril.

Victoria. Dry Stringy-bark and Iron-bark Ranges towards the Upper Yarra, Goulburn, Broken and Ovens rivers, and near Ballarat, *F. Mueller.* Readily distinguished from *A. juniperina*, which it resembles, by the 4-merous flowers, the petals not ribbed, and the thickened funicles.

39. **A. diffusa,** *Lindl. Bot. Reg. t.* 634. A glabrous divaricately-branched

or diffuse shrub, either quite low or rising to 5 or 6 ft.; branchlets angular. Phyllodia linear, thick and rigid, tapering into a pungent point, prominently 1-nerved, mostly ¾ to 1 in. long, 1 to 1½ lines broad, slightly narrowed at the base. Peduncles usually 2 or 3 together, under ½ in. long, bearing each a globular head of about 20 flowers, mostly 4-merous, rarely 5-merous or 3-merous. Calyx with short broad somewhat thickened lobes, not half as long as the corolla. Petals membranous, without the prominent nerve of *A. juniperina*, cohering or at length separating. Pod stipitate, often attaining 3 or 4 in., about 2 lines broad, flat or the valves at length convex. Seeds longitudinal; funicle much folded, thickened either from the middle upwards or nearly from the base.—DC. Prod. ii. 450; Bot. Mag. t. 2417; Hook. f. Fl. Tasm. i. 105; F. Muell. Pl. Vict. ii. 6; *A. prostrata*, Lodd. Bot. Cab. t. 631.

Victoria. Heathy ground, Stringy bark forests and other barren localities throughout the greater part of the colony, *F. Mueller.*

Tasmania. Port Dalrymple and Derwent river, *R. Brown*; abundant in dry places especially by roadsides throughout the island, *J. D. Hooker.*

Var. *cuspidata.* Phyllodia more slender, often not broader than thick, sometimes all under ¾ in., sometimes on barren shoots attaining 2 in.—*A. cuspidata*, A. Cunn.; Benth. in Hook. Lond. Journ. i. 337.

N. S. Wales. Brushy hills of the southern districts, *A. Cunningham, Fraser, Huegel.*

40. **A. rupicola,** *F. Muell.; Benth. in Linnæa*, xxvi. 610. A glabrous shrub, attaining 5 ft.; branches slightly angular. Phyllodia linear or linear-lanceolate, rigid and tapering into a pungent point, prominently 1-nerved, rarely above ½ in. long, broader at the base than in *A. diffusa*, which this species closely resembles. Stipules minute or none. Peduncles about ½ in. long, bearing each a small globular head of numerous flowers, mostly 4-merous. Calyx shortly lobed, half as long as the corolla. Petals membranous, without any prominent midrib. Pod linear, flattened, straight or curved, 1 to 2 in. long, about 2 lines broad, not contracted between the seeds. Seeds longitudinal; funicle much folded and thickened nearly from the base, the upper folds forming a broad aril clasping the base of the seed.—F. Muell. Pl. Vict. ii. 8; Dietr. Fl. Univers. N. Ser. t. 8.

Victoria. Rocky mountains near the Wimmera, *Dallachy.*

S. Australia. Mount Lofty Ranges, *F. Mueller*; towards Bremer river, Mount Barker Creek, *L. Fischer.*

D. Spicatæ.—Phyllodia 1- 2- or 3-nerved. Flowers 4-merous or 3-merous, in cylindrical or oblong rarely ovoid spikes, on axillary peduncles or almost sessile.

Some species of this group, especially *A. rhigiophylla* and *A. verticillata* var. *ovoidea*, seem in their inflorescence to connect the spicate with the capitate species, which in almost all species of *Mimoseæ*, Australian or extra-Australian, are so constantly distinct.

41. **A. rhigiophylla,** *F. Muell.; Benth. in Linnæa*, xxvi. 611. A compact rigid shrub of 4 or 5 ft., with numerous spreading terete branches, slightly glutinous-pubescent when young, at length glabrous. Phyllodia linear or linear-lanceolate, thick and very rigid, tapering to a pungent point, ½ to 1 in. long, with 2 or 3 raised nerves on each side. Flower-heads small and nearly sessile, less compact than in most species and often oblong, with

6 to 10 flowers, mostly 4-merous. Calyx campanulate, with broad short lobes, not half as long as the corolla. Petals quite smooth and readily separating. Pod unknown.—F. Muell. Pl. Vict. ii. 9.

S. Australia. Desert on the lower Murray, towards Mount Barker Range, *F. Mueller.*

42. **A. oxycedrus,** *Sieb. in DC. Prod.* ii. 453. A tall rigid spreading shrub, the branches usually pubescent and nearly terete. Phyllodia scattered or rarely irregularly verticillate, rigid, tapering into a pungent point, rather broad at the base, $\frac{1}{2}$ to $\frac{3}{4}$ or rarely above 1 in. long, with 3 or rarely 4 prominent nerves on each side. Stipules small, often spinescent. Peduncles short, bearing each a dense cylindrical spike, often above 1 in. long. Flowers mostly 4-merous. Calyx short, the lobes obtuse. Petals smooth, readily separating. Pod incurved, acuminate and narrowed at the base, about 2 lines wide and often above 3 in. long, pubescent or at length glabrous, the valves very convex, striate, thicker and harder than in *A. verticillata.* Seeds oblong, longitudinal; funicle much folded, and usually more or less thickened from the base.—Sweet, Fl. Austr. t. 6; Bot. Mag. t. 2928; Reichb. Icon. Exot. t. 120; Paxt. Mag. Bot. vii. 151, with a fig.; F. Muell. Pl. Vict. ii. 10.

N. S. Wales. Blue Mountains, *Sieber, n.* 427, *A. Cunningham, Fraser.*

Victoria. Not unfrequent in heathy tracts throughout the southern part of the colony, ascending also into the mountains, *F. Mueller.*

Tasmania, *Fitzalan* (*Herb. F. Mueller,* but doubtful).

S. Australia. Between Mount Gambier and Rivoli Bay, *F. Mueller.*

43. **A. verticillata,** *Willd. Sp. Pl.* iv. 1049. A shrub, rather low and spreading or erect and bushy, sometimes growing into a small tree; branches angular-striate, pubescent or rarely glabrous. Phyllodia scattered or more often verticillate, linear-subulate, lanceolate or oblong, rigid and tapering into a pungent point, about $\frac{1}{2}$ in. long or shorter, rarely $\frac{3}{4}$ in. long, with a prominent central nerve and rarely 1 or 2 slender lateral ones. Stipules minute. Peduncles short or slender, bearing each, in the common variety, a dense cylindrical spike of $\frac{1}{2}$ to 1 in. long, or rarely longer and loose. Flowers 4-merous, globular in the bud. Calyx short, broad, irregularly lobed. Petals smooth, united at the base. Pod flat, with slightly thickened margins, straight or curved, acute at each end, $1\frac{1}{2}$ to 2 in. long when perfect, 2 lines wide and scarcely contracted between the seeds. Seeds oblong, longitudinal; funicle much folded, thickened sometimes from the base, but always much more so at the end or about the middle.—*Mimosa verticillata,* L'Hér. Sert. Angl. 30; Vent. Jard. Malm. t. 63; Bot. Mag. t. 110; *A. verticillata,* DC. Prod. ii. 453; Lodd. Bot. Cab. t. 535; Hook. f. Fl. Tasm. i. 106; F. Muell. Pl. Vict. ii. 10; *A. semiverticillata,* Knowl. and Westc. Fl. Cab. ii. 27 (from the char. in Walp. Rep. i. 922).

Victoria. Port Phillip, *R. Brown;* extremely abundant in all the more humid parts of the colony, *F. Mueller.*

Tasmania. Derwent river, Port Dalrymple, and islands of Bass's Straits, *R. Brown;* abundant in moist situations throughout the island, *J. D. Hooker.*

Var. *latifolia.* Phyllodia lanceolate or oblong.—*A. ruscifolia,* A. Cunn. in G. Don, Gen. Syst. ii. 407; Bot. Mag. t. 3195; *A. mœsta,* Lindl. Bot. Reg. 1846, t. 67. With the common variety, especially in Tasmania.

Var. *ovoidea.* Phyllodia slender. Spikes very short, sometimes reduced to small ovoid-globular heads. Flowers small. Calyx-lobes narrow.—*A. ovoidea,* Benth. in Hook. Lond. Journ. i. 339; Hook. f. Fl. Tasm. i. 105, t. 20; Dietr. Fl. Univers. N. Ser. t. 8.

Victoria. Grampians, Gipps' Land, and other parts of the colony, but less frequent than the cylindrical-spiked variety, *F. Mueller.*

Tasmania. Amongst grass, etc., in dry places, Woolnorth, Circular Head, etc., *J. D. Hooker.*

S. Australia. Not unfrequent in the colony, extending northward to Mount Remarkable, *F. Mueller.*

Distinct as are the Tasmanian specimens from the common variety, the Continental ones appear to pass into the more slender forms of the true *A. verticillata.*

44. **A. Riceana,** *Henslow, in Maund, Botanist,* iii. t. 135. A handsome dark-green, tall shrub or small tree, glabrous with angular branchlets. Phyllodia scattered or almost whorled, linear or subulate, sometimes all rather broad and ½ to ¾ in. long, sometimes very narrow, and 1 to 1½ in. long, tapering into pungent points, 1-nerved. Stipules minute. Spikes slender and loose, often above 1 in. long, the flowers often distant, 3-merous or rarely 4-merous, ovoid and obtuse or acute in the bud. Calyx short, with broad obtuse ciliate lobes. Petals smooth, readily separating. Pod usually curved, acuminate, often 2 to 3 in. long and scarcely 1½ lines broad, slightly pubescent when young, but soon glabrous; valves very convex, coriaceous, contracted between the seeds. Seeds oblong, longitudinal; funicle much folded and thickened nearly from the base.—Hook. f. Fl. Tasm. i. 106; *A. setigera,* Hook. Ic. Pl. t. 316; *A. erythropus,* Ten. Cat. Hort. Neap. Annot. 77 (from the description given); *A. taxifolia,* Lodd. Bot. Cab. t. 1225? (from the figure).

Tasmania. Derwent river, *R. Brown;* moist shady places in the southern parts of the island, *J. D. Hooker.*

45. **A. axillaris,** *Benth. in Hook. Lond. Journ.* i. 341. Very near the long-leaved forms of *A. Riceana,* and perhaps a variety as suggested by F. Mueller, but the phyllodia are often still longer, showing faint lateral nerves, and the inflorescence is different; the spikes are sessile or nearly so and contain but very few flowers, rarely more than 4, otherwise like those of *A. Riceana.* I have not as yet seen any intermediate specimens. —Hook. f. Fl. Tasm. i. 107.

Tasmania, *Gunn;* Brook's Head, St. Paul's River, *C. Stuart.*

SERIES IV. CALAMIFORMES.—Phyllodia rarely none, more frequently narrow-linear or subulate, terete, tetragonous or very slightly flattened, articulate on the stem, obtuse or with short innocuous or recurved points, 1- or several-nerved. Flowers in globular heads, on simple axillary peduncles, or rarely several heads in a short raceme, or irregularly racemose by the abortion of the floral phyllodia.

Although the long slender phyllodia, not broader than thick, give a peculiar character to the majority of the species included in this series, a few, by their more rigid phyllodia with straighter points, pass into the *Pungentes,* the shorter-leaved ones connect them with the narrowest among the *Uninerves brevifoliæ,* some almost pass into the *Plurinerves microneuræ,* and a few of the *Julifloræ* only differ in their flower-heads oblong or cylindrical not globular.

A. SUBAPHYLLÆ.—Phyllodia none or very few and slender, resembling the branches, chiefly subtending the inflorescences.

46. **A. tetragonocarpa,** *Meissn. in Pl. Preiss.* i. 4. A glabrous undershrub, with erect slender rush-like stems of 1 to 2½ ft., slightly branched and nearly leafless. Phyllodia mostly reduced to small striate scales at the base of the branches, 1 or 2 often filiform, terete, resembling the branches, the lower ones of the young plant occasionally bipinnate as in other phyllodinous species. Peduncles short, often 2 or 3 together, bearing a head of 3 or 4 flowers, occasionally reduced to a single one, 4-merous and oblong in the bud. Calyx short. Petals rigid, striate, nearly 1½ lines long. Pod stipitate, linear-falcate, about 1 in. long, with a very prominent longitudinal angle on each side of each suture. Seeds longitudinal, the last fold of the funicle dilated into a small turbinate almost cup-shaped aril under the seed, with a filiform fold below it.—*Tetracheilos Meissneri*, Lehm. in Pl. Preiss. ii. 368.

W. Australia. King George's Sound, *R. Brown*; Swan River, *Fraser*; boggy ground near Spencer, Plantagenet district, *Preiss, n.* 866; Israeliti Bay, *Maxwell.*

Var. *scabra.* Phyllodia long, rigid, prominently 1-nerved, glabrous. Pod not seen. Flowers as in the ordinary form.—A single specimen from *Oldfield.*

The longitudinally 4-angled pod, upon which Lehmann founded the genus *Tetracheilos*, occurs also in *A. stenoptera*, a species widely different in several other respects, and to a certain degree also in some of the *Julifloræ.*

47. **A. restiacea,** *Benth. in Hook. Lond. Journ.* i. 3. A glabrous undershrub or shrub, with rush-like branches somewhat angular or striate, leafless or with a few slender terete phyllodia, scarcely to be distinguished from the branches. Flower-heads globular, several in a raceme, covered when very young by imbricate scales very early deciduous. Flowers mostly 5-merous, usually 20 to 30 in the head. Calyx small, thin, irregularly lobed. Petals smooth. Pod (according to Lehmann) stipitate, linear, moniliform, with reticulately veined coriaceous valves.—Meissn. in Pl. Preiss. i. 3, ii. 199; *Chithonanthus restiaceus,* Lehm. in Pl. Preiss. ii. 368.

W. Australia. Swan River and adjoining districts, *Drummond, 2nd Coll. n.* 113, *Preiss, n.* 971, 972; Preston and Murchison rivers, *Oldfield.*

A. squamata, Morren, in Ann. Soc. Hort. Gand, iii. 209, t. 134, a work which I do not find in our libraries, appears to be, from the characters copied into Walp. Ann. i. 264, the same as *A. restiacea,* and certainly not *A. squamata,* Lindl.

The imbricate scales covering the very young racemes, which induced Lehmann to propose his genus *Chithonanthus,* occur also in *A. squamata,* in *A. suaveolens,* and in some other species widely differing in other characters.

B. PLURINERVES.—Phyllodia either striate with 2, 3, or more prominent nerves, or with numerous very fine parallel nerves, scarcely visible without a lens.

48. **A. squamata,** *Lindl. Swan Riv. App.* 15. Glabrous with erect, terete, rush-like branches. Phyllodia few, distant, linear-terete, slightly striate with fine nerves, resembling the branchlets, but not continuous with them, with short recurved points, attaining about 2 in. Flower-heads in short axillary racemes, with imbricate striate scales, falling off as the flowers open. Calyx and corolla none or reduced to a minute membranous ring. Stamens very densely packed, above 100 in each flower, and 6 to 10 flowers in the head. Pod unknown.—Hook. Ic. Pl. t. 367.

W. Australia. Swan River, *Drummond,* 1*st Coll.*; between Perth and King George's Sound, *Harvey;* hills near Coogenup and Gordon Plains, *Oldfield.*

49. **A. brachyphylla,** *Benth. in Linnæa,* xxvi. 615. Apparently a diffuse shrub, the branches woolly-pubescent or at length glabrous. Phyllodia numerous, linear-terete, incurved, obtuse or with short innocuous points, under ½ in. long, striate with several nerves. Stipules small, deciduous. Peduncles shorter than the phyllodia, bearing each a small globular head of apparently 5-merous flowers, but not seen perfect. Pod flexuose, 1 to 2 in. long, scarcely 1½ lines broad, flat, with slightly thickened nerve-like margins. Seeds small, obovoid, oblique or longitudinal, the last fold of the funicle thickened into a short fleshy aril.

W. Australia, *Drummond.*

50. **A. Bynoeana,** *Benth. in Linnæa,* xxvi. 614. Shrubby, with numerous branches, loosely pubescent and sometimes glutinous. Phyllodia numerous, linear-terete, striate with several nerves, usually recurved at the point, rarely above 1 in. long. Stipules small, deciduous. Peduncles 3 to 4 lines long, bearing each a small globular head of about 20 flowers, mostly 5-merous. Calyx with narrow ciliate lobes. Petals narrow, smooth, not much longer than the calyx and quite distinct. Pod much curved, flat with thickened margins, scarcely above 1 line broad. Seeds oblong, longitudinal, the last fold of the funicle, and sometimes part of the next also, thickened into a fleshy aril.—*A. leptophylla,* F. Muell. Fragm. iv. 9.

N. Australia. N.W. coast, *Bynoe;* Gulf of Carpentaria, *F. Mueller.* The latter are the specimens alluded to by F. Mueller, Pl. Vict. ii. 12, as nearly resembling *A. Wilhelmsiana.* The corresponding ones, both in Herb. Hooker and in Herb. Sonder, were, by some mistake, labelled as *A. Wilhelmsiana* from the Murray scrub, and were mentioned by me in Linnæa, xxvi. 613, as a var. of *A. nematophylla,* F. Muell. The latter is, however, a short-leaved form of *A. calamifolia,* which has never more than 1 nerve on each side of the phyllodium.

51. **A. triptycha,** *F. Muell. Herb.* A spreading shrub, very nearly allied to *A. leptoneura,* with linear-subulate, spreading or flexuose phyllodia of 1½ to 3 in., but with only 2 or 3 prominent nerves on each side. Peduncles short, bearing a small head of about 20 flowers, mostly 5-merous. Sepals free, narrow-spathulate. Petals smooth. Pod unknown.

W. Australia, *Drummond* (*4th Coll.?*), *n.* 132, *and 5th Coll. n.* 5; Kalgan river, *Oldfield;* Termination rock, *Maxwell.*

52. **A. leptoneura,** *Benth. in Hook. Lond. Journ.* i. 341. Shrubby. Branches slightly angular, glabrous or hoary-pubescent when young. Phyllodia linear-subulate, rather rigid, nearly terete, straight or flexuose, finely striate with numerous scarcely prominent nerves, almost obtuse or with short recurved points, mostly about 2 in. long. Peduncles short, bearing each a globular head of 20 to 30 flowers, mostly 5-merous. Sepals narrow-spathulate, distinct or very shortly united in a cup at the base. Petals smooth, readily separating. Pod not seen.—Bot. Mag. t. 4350; Meissn. in Pl. Preiss. i. 12 (except the var. *β*).

W. Australia, *Drummond;* Fitzgerald ranges, *Maxwell.*

53. **A. rigens,** *A. Cunn. in G. Don, Gen. Syst.* ii. 403. A tall shrub, either quite glabrous or pale or hoary with a minute pubescence; branchlets somewhat angular. Phyllodia linear-subulate rather rigid, nearly terete, straight or incurved, usually 2 to 3 in. long and very finely striate with 3 to

5 scarcely prominent nerves, with a short, innocuous, oblique or recurved point, but in some specimens 3 nerves on each side are prominent, at least at the base. Peduncles very short, bearing each a globular head of about 20 flowers, mostly 5-merous. Sepals spathulate, united to about the middle. Petals smooth. Pod linear, straight or curved, flat, about 1½ lines broad, much contracted between the seeds, the valves coriaceous and convex at the seeds. Seeds ovate, longitudinal; funicle with several folds, the last dilated into a turbinate almost cup-shaped aril.—*A. chordophylla*, F. Muell. in Linnæa, xxvi. 612, and Pl. Vict. ii. 11.

N. S. Wales. Low flat country on the Lachlan river, *A. Cunningham*; Darling river and thence to the Barrier Range, *Victorian Expedition.*

Victoria. Desert country along the Murray and Wimmera, *F. Mueller.*

S. Australia. Port Lincoln, *Wilhelmi*; towards Lake Alexandrina, *F. Mueller.*

Distinguished from *A. leptoneura* only in the sepals rather more united, from the narrow-leaved forms of *A. elongata* in the phyllodia still narrower and less flattened.

Var. *longifolia.* Phyllodia slender, often 6 in. long. Heads almost sessile, with numerous flowers.—In *Leichhardt's* collection.

54. **A. papyrocarpa,** *Benth.* A small tree, of about 25 ft., the branches nearly terete, glabrous or minutely hoary-pubescent. Phyllodia linear-subulate, rigid, thick but slightly flattened, 2 to 3 in. long, tapering into a recurved but not pungent point, narrowed at the base, striate with numerous fine parallel nerves only visible under a lens, slightly hoary-tomentose especially along the centre, without any midrib. Flowers not seen, but from the scars they must have been in globular heads on very short peduncles. Pod flat, falcate or flexuose, 3 to 4 in. long, 4 to 5 lines broad; valves thin, almost membranous. Seeds ovate, longitudinal; funicle with very short folds, gradually and not much thickened from the base.

S. Australia. S. coast, *R. Brown* (*Herb. R. Br.*). The phyllodia at first sight resemble those of *A. rigens*, or of some forms of *A. calamifolia*, but the veins are finer and more numerous and the pod is very different, more like that of *A. Murrayana.*

C. UNINERVES.—Phyllodia 1-nerved or nerveless.

Where the nerves (one on each side) are prominent, the phyllodium becomes tetragonous.

55. **A. pugioniformis,** *Wendl. Comm. Acac.* 38, *t.* 9, *but not the syn. given in Flora*, 1819, 139. A tall glabrous shrub, with slender slightly angular branches. Phyllodia rather numerous, straight or slightly curved, mostly erect, linear-subulate, 1½ to 2 rarely 3 in. long, abruptly terminating in a short straight point, nearly tetragonous by a prominent nerve on each side. Stipules minute. Peduncles solitary or 2 together, 2 to 3 lines or rarely ½ in. long, bearing each a globular head of numerous flowers, mostly 5-merous. Sepals linear-spathulate, ciliate, at length free, about half as long as the corolla. Petals smooth, with a prominent midrib. Pod unknown.—DC. Prod. ii. 450; *A. quadrilateralis*, DC. Prod. ii. 451.

Queensland. Brisbane and Logan rivers, *A. Cunningham*; also in *Leichhardt's* collection.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, R. Cunningham, Sieber, n.* 442.

The *A. quadrilateralis* inserted by Decaisne in the Herb. Tim. Descr. 132 as a Timor plant, which I have not seen, is more likely to be the following species.

56. **A. juncifolia,** *Benth. in. Hook. Lond. Journ.* i. 341. A tall glabrous shrub, with slender branches, quite terete. Phyllodia linear-subulate, erect or spreading, slightly flattened with a scarcely prominent nerve on each side, 3 to 6 in. long or even more, with a very short erect or curved point or obtuse. Stipules minute. Peduncles solitary or 2 together, rarely ½ in. long, bearing each a small globular head of numerous flowers, mostly 5-merous. Sepals spathulate, at length free, half as long as the corolla. Petals smooth, without the prominent midrib of *A. pugioniformis*. Pod straight, flat or flexuous, often 3 or 4 in. long, 1½ to 2 lines wide. Seeds obovate-oblong, longitudinal; funicle not folded, slightly thickened towards the end.—*A. pinifolia,* Benth. in Mitch. Trop. Austr. 342.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; barren stony places on the Macarthur, Gulf of Carpentaria, *F. Mueller.*

Queensland. E. coast, *R. Brown;* Port Bowen, *A. Cunningham;* near Mount Pluto, *Mitchell;* also in *Leichhardt's* collection.

N. S. Wales. Barren lands, N.W. interior, *Mitchell, A. Cunningham, Fraser.*

Var. *planifolia.* Phyllodia flatter, nearly a line broad, with a more prominent midrib, almost like those of *A. subulata,* but the peduncles all simple. In *Mitchell's* collection.

57. **A. calamifolia,** *Sweet, in Lindl. Bot. Reg. t.* 839. A tall shrub, glabrous and often glaucous or slightly mealy, the branches rather slender and terete. Phyllodia linear-subulate, in the northern specimens very slender and mostly 3 to 4 in. long, in the more southern ones usually about 2 in. and from that to 3 in., rarely shorter, and then often slightly flattened and nearly 1 line broad but thick, sometimes slender as in the long ones, always tapering into a fine recurved point which only wears away with age, nerveless or with one fine nerve on each side. Flower-heads globular, smaller than in *A. pugioniformis*, and usually 3 or 4 in a short raceme, more rarely solitary. Flowers numerous, mostly 5-merous. Calyx thin and transparent, with short, broad, ciliate lobes, often splitting into spathulate sepals. Petals smooth, distinct. Pod often 5 or 6 in. long, usually curved, 2 to 2½ lines broad but much contracted between the distant seeds, the valves hard and convex over the seeds. Seeds oblong, longitudinal; funicle long, often almost encircling the seed, then bent back and returning within the previous fold, thickened at the end into a long clavate or shortly turbinate fleshy aril.—Lodd. Bot. Cab. t. 909; F. Muell. Pl. Vict. ii. 12; *A. pulverulenta,* A. Cunn.; Benth. in Hook. Lond. Journ. i. 342 (the shorter-leaved southern specimens).

N. S. Wales. In the interior, on the Macquarrie, Lachlan, etc., *A. Cunningham, Fraser, Mitchell;* Liverpool plains, *C. Moore;* also in *Leichhardt's* collection.

Victoria. Not unfrequent in the N.W. desert, *F. Mueller.*

S. Australia. Desert land from the Murray to Spencer's Gulf and Kangaroo Island, extending northward to Lake Torrens, *F. Mueller* and others.

Var. *Wilhelmsiana.* Phyllodia shorter, peduncles longer.—*A. Wilhelmsiana,* F. Muell. in Trans. Phil. Inst. Vict. i. 37.—S. Australia, *R. Brown, F. Mueller.*

Under the name of *A. nematophylla,* F. Muell., I had, in Linnæa, xxvi. 612 (owing partly to a wrong label originally sent with F. Mueller's specimens), confounded this variety with the northern *A. Bynoeana,* which is at once known by the venation of the phyllodia.

58. **A. scirpifolia,** *Meissn. in Bot. Zeit.* 1855, 10. Quite glabrous or the young shoots very sparingly pubescent; branchlets angular. Phyllodia

linear-subulate, obtuse or with a minute recurved innocuous point, mostly 3 to 5 in. long, terete or slightly flattened, obscurely 1-nerved. Stipules very deciduous. Peduncles solitary, bearing a small globular head of about 20 flowers, mostly 5-merous. Calyx turbinate, truncate, obtusely sinuate-toothed, about half as long as the corolla. Petals smooth. Pod long, straight or nearly so, about 2 lines broad and much contracted between the seeds, valves hard, very convex over the seeds. Seeds oblong, longitudinal; funicle with short folds, 2 at least of the last much thickened or dilated.

W. Australia. Between Moore and Murchison rivers, *Drummond, 6th Coll. n.* 5, *Oldfield.* The calyx and pod are nearly those of *A. saligna* and its allies, but the phyllodia and seeds are more those of some of the *Calamiformes.*

59. **A. extensa,** *Lindl. Swan Riv. App.* 15. An erect glabrous shrub of several ft., with elongated branches, always angular and sometimes almost winged. Phyllodia linear-subulate, rigid but slender, often scarcely to be distinguished from branchlets, erect spreading or recurved, sometimes few and short, more frequently from 3 or 4 in. to twice that length, with a prominent nerve on each side. Peduncles solitary or shortly and irregularly racemose, bearing each a globular head of 20 or more flowers, mostly 5-merous. Calyx turbinate, thin, truncate or shortly and broadly lobed. Petals smooth, united at the base. Pod long, linear, straight or curved, about 1½ lines broad and contracted between the seeds; valves thinly coriaceous. Seeds oblong, longitudinal; funicle with short folds, the last 2 usually much thickened.—Meissn. in Pl. Preiss. i. 6; *A. graminea,* Lehm. Del. Sem. Hort. Hamb. 1842; Meissn. in Pl. Preiss. i. 5; *A. pentaedra,* Regel, Gartenfl. i. 228, t. 24.

W. Australia. Swan River, *Drummond, 1st Coll.;* Vasse river, *Mrs. Molloy;* Princess Royal Harbour, *Preiss, n.* 983; Gordon ranges, *Maxwell;* Preston and King rivers, *Oldfield.*

60. **A. gonophylla,** *Benth. in Linnæa,* xxvi. 613. A rigid glabrous shrub, allied in some respects to *A. sulcata;* branches angular. Phyllodia not crowded, linear, incurved, obtuse with a short point, rigid and acutely tetragonous by the very prominent nerves, narrowed at the base, 1 to 1½ in. long. Stipules minute. Peduncles usually in pairs, 2 to 4 lines long, bearing each a globular head of about 12 to 20 flowers, mostly 5-merous. Calyx very thin, often separating into distinct sepals, half as long as the corolla. Petals smooth. Pod linear, flat, slightly contracted between the seeds, about 2 lines broad. Seeds oblong, longitudinal, the last fold of the funicle very short and turbinate, the next long and considerably dilated.

W. Australia. Towards Cape Riche, *Drummond, 5th Coll. n.* 4; Phillips Range and Bremer Bay, *Maxwell.*

Var. *crassifolia.* Lower phyllodia sometimes dilated, linear-cuneate or almost oblong, 2 in. long, very thick and much narrowed at the base, upper ones as in the common form. Heads rather larger, with more flowers.—Towards the Great Bight, *Maxwell.*

A fragment from Kojonerup range has the stipules almost spinescent; another, from Phillips range, has the phyllodia not ½ in. long; neither are sufficient for accurate determination.

61. **A. ericifolia,** *Benth. in Hook. Lond. Journ.* i. 345. A low bushy shrub, attaining sometimes 3 or 4 ft., glabrous or loosely hirsute. Phyllodia numerous, shortly linear-terete or slightly flattened horizontally, obtuse,

mostly $\frac{1}{2}$ to $\frac{3}{4}$ very rarely 1 in. long, narrowed at the base, nerveless or obscurely 1-nerved. Stipules deciduous. Peduncles short, solitary or in pairs, bearing each a head of about 15 to 20 or rather more flowers, mostly 5-merous. Sepals free, narrow-spathulate. Petals smooth, united to the middle. Young pod hard and terete, but not seen fully formed.—*A. Hookeri*, Meissn. in Pl. Preiss. ii. 202.

W. Australia. Swan River, *Drummond*, 1*st Coll.* (*n.* 300, according to Meissner), 2*nd Coll. n.* 141, *Preiss*, *n.* 951; Murchison river, *Oldfield*. Narrow-leaved specimens of *A. leptospermoides* might at first be mistaken for this species, but may be known by at least 3 nerves visible under a lens, at least at the base of the leaf.

62. **A. uncinella,** *Benth. in Linnæa*, xxvi. 613. A low bushy shrub, glabrous or the young shoots minutely pubescent; branches terete or slightly angular. Phyllodia shortly linear-subulate, terete or nearly so, mostly about 1 in. long, faintly 1- or 3-nerved on one side, narrowed at the base and as it were petiolate. Stipules minute, deciduous. Peduncles 2 to 4 lines long, rather slender, solitary or in pairs, bearing each a small globular head of about 20 flowers, mostly 5-merous. Sepals distinct, narrow-spathulate. Petals smooth. Pod (from the remains on one specimen) not above $1\frac{1}{2}$ lines broad, not contracted between the seeds.

W. Australia. In the interior, *J. S. Roe*; W. tributary to the Oldfield river, *Maxwell*.

63. **A. oxyclada,** *F. Muell. Herb.* A bushy, heath-like, glabrous shrub of 3 or 4 ft., the very numerous slender branches mostly ending in fine thorns. Phyllodia shortly linear-terete or slightly flattened horizontally, mostly 3 to 4 lines long, nerveless on one side, faintly 1- or 3-nerved on the other, almost petiolate. Flowers not seen. Fruiting peduncles 3 to 4 lines long, bearing the scars of a head of several flowers. Pod about 1 in. long, $1\frac{1}{2}$ lines broad, flexuose. Seeds orbicular; funicle short, thickened at the end, but not seen perfect.

W. Australia. Murchison river, *Oldfield*. The species has the habit of the *Uninerves spinescentes*, but the phyllodia are almost terete.

SERIES V. BRUNIOIDEÆ.—Phyllodia numerous, small, linear-subulate (except in *A. conferta*), verticillate, clustered or crowded, obtuse or with innocuous or rarely rigid points. Flowers in globular heads, on simple axillary peduncles usually exceeding the phyllodia.

Distinct as are the majority of the species of this group, they pass into the *Uninerves brevifoliæ* through *A. conferta*. Verticillate phyllodia occur also in *A. verticillata*, but they are there rigid and pungent.

64. **A. cedroides,** *Benth. in Linnæa*, xxvi. 615. A much-branched shrub of 3 or 4 ft., the specimens having the aspect of a short-leaved Fir or of an Equisetum; branches shortly villous. Phyllodia verticillate, linear-subulate, 4-gonous, rigid, almost pungent-pointed, $\frac{1}{2}$ to 1 in. long. Stipules setaceous. Peduncles 2 to 4 lines long, bearing each a small head of 20 to 30 flowers, mostly 5-merous, the receptacle densely ciliate. Calyx broad, obtusely lobed, not half so long as the corolla. Petals narrow, smooth, usually cohering to the middle. Pod sessile, incurved, acuminate, $1\frac{1}{2}$ to 2 in. long, about 2 lines broad, the valves hard, longitudinally striate, with broad

smooth margins. Seeds oblong, longitudinal; funicle folded and thickened at the end into a turbinate aril, but not seen perfect.

W. Australia. Southern districts, *Drummond, 4th Coll. n.* 4; among rocks, Fitzgerald Range, Mount Bland, etc., *Maxwell.*

65. **A. lycopodifolia,** *A. Cunn. in Hook. Ic. Pl. t.* 172. A much-branched diffuse or divaricate shrub, clothed with very short spreading hairs and more or less viscid. Phyllodia verticillate, about 8 to 10 in the whorl, subulate, rarely above 3 lines long and often only 1 to 2 lines, sulcate with a prominent vein on each side, erect at the base, recurved at the end with a fine glabrous viscid point, sometimes very short, sometimes nearly as long as the phyllodium. Stipules setaceous. Peduncles longer than the phyllodia, bearing each a globular head of numerous flowers, mostly 5-merous, the bracts protruding when young. Calyx very short, with small acute teeth. Petals several times as long, striate, pubescent, united above the middle. Pod sessile or very shortly contracted at the base, quite flat, straight or slightly curved, 1 to 1½ in. long, 2½ to 3 lines broad. Seeds nearly orbicular, oblique, the last fold of the funicle thickened into a fleshy aril.

N. Australia. Cambridge Gulf, N.W. coast, *A. Cunningham*; Hammersley Range, Nichol Bay, *F. Gregory's Expedition*; Victoria river, *Bynoe, F. Mueller*; Arnhem S. Bay, *R. Brown*; also in *Leichhardt's* collection.

Var. *glabrescens.* Pubescence much shorter or disappearing. Phyllodia rather longer, but sulcate, with recurved points, as in the ordinary form. Calyx rather more prominent. Pod sessile.—*A. asperulacea,* F. Muell. in Journ. Linn. Soc. iii. 123.—Victoria river, *F. Mueller.*

66. **A. hippuroides,** *Herard; Benth. in Hook. Lond. Journ.* i. 344. Pubescent, with verticillate, subulate, sulcate phyllodia, as in *A. lycopodifolia,* of which it may possibly prove a variety, but the phyllodia are much longer, attaining 5 or 6 lines, straight not recurved at the end, and the calyx, thinly membranous, is at least one-third as long as the corolla. Petals striate and pod sessile, as in *A. lycopodifolia.*

N. Australia. Usborne's Harbour, N.W. coast, *Voyage of the Beagle*; Attack Creek, *M'Douall Stuart's Expedition.*

A fragment from M'Douall Stuart's Expedition differs in the phyllodia more rigid and short, but with the same straight points, the stems more viscid, awnless, pubescent, and especially in the extreme tenuity of the calyx, which it is rather difficult to find, and in the petals membranous and smooth, as in *A. cedroides,* but broader and glabrous.

67. **A. galioides,** *Benth. in Hook. Lond. Journ.* i. 344. Pubescent or tomentose, with verticillate finely subulate phyllodia, as in *A. lycopodifolia,* but the phyllodia are more slender, slightly striate only, not sulcate with prominent nerves, 2 to 5 lines long, recurved at the end but apparently without viscid points. Flowers mostly 5-merous, in globular heads on peduncles exceeding the leaves, as in that species, but the calyx is at least one-third as long as the corolla, and the pod is always borne on a stipes of 2 to 3 lines.

N. Australia. Victoria river, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; and a variety with rather stouter phyllodia, Sweers Island, *Henne.*

68. **A. Baueri,** *Benth. in Hook. Lond. Journ.* i. 344. Apparently an undershrub, with erect or ascending stems, under 1 ft. high, the terete branchlets minutely pubescent, otherwise glabrous. Phyllodia in whorls of 5 to 7,

linear-subulate, terete, without prominent nerves, but often a slight furrow underneath, recurved at the end and obtuse or with a minute point, about 4 to 6 lines long. Stipules minute or none. Peduncles rather longer than the phyllodia, bearing a very small head of 10 to 20 flowers, mostly 5-merous and scarcely ¾ line long. Calyx fully half as long as the corolla, with acuminate teeth. Petals with a prominent midrib, but not striate. Pod falcate, narrowed at each end, 1½ to 2 lines broad, hard, longitudinally striate. Seeds not seen.

N. Australia. N. coast, *R. Brown*, without the precise station. The aspect of the plant is that of *A. subternata*, but the phyllodia are verticillate as in the preceding species, although fewer in the whorl.

69. **A. subternata,** *F. Muell. in Journ. Linn. Soc.* iii. 124. A glabrous shrub of 3 to 5 ft.; branchlets angular, sulcate, slightly viscid when young. Phyllodia mostly in clusters of 2, 3 or 4, linear-terete or very slightly compressed, with short recurved or hooked points, 3 to 6 lines long, without prominent nerves and scarcely furrowed. Stipules minute or none. Peduncles scarcely longer than the phyllodia, bearing each a globular head of numerous flowers, mostly 5-merous. Sepals rather rigid, linear-spathulate, fully half as long as the corolla, united in a 5-nerved cup at the base. Petals slightly striate, united to the middle. Pod flat, rigidly coriaceous, much narrowed into a long stipes, about 2 lines broad in the upper part, somewhat viscid, very obliquely striate, with thickened margins and oblique partitions between the seeds. Seeds oblong, obliquely transverse; funicle straight, gradually thickened from the base to the end.

N. Australia. Table land, Upper Victoria river, *F. Mueller*. Some young specimens of *Leichhardt's* appear to be referable to the same species.

70. **A. bruniades,** *A. Cunn. in G. Don, Gen. Syst.* ii. 404. A heath-like shrub, glabrous or the terete branches minutely pubescent. Phyllodia crowded, but scattered or irregularly verticillate, linear-terete, 2 to 4 lines long, with short straight points, without prominent nerves or furrows. Stipules minute or none. Peduncles longer than the phyllodia, bearing each a globular head of rather small flowers, mostly 5-merous. Calyx turbinate, angular, half as long as the corolla, with short obtuse minutely ciliate lobes. Petals free, smooth with rather prominent midribs. Pod not seen.

Queensland. Brisbane river, *A. Cunningham;* Mounts Hooker and Lindsay, *Fraser.*

71. **A. conferta,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 345. A tall heath-like shrub, with terete slightly pubescent branches. Phyllodia crowded, scattered or irregularly verticillate, linear, compressed, 3 to 4 or rarely 5 lines long, rigid, mostly obtuse, without nerves or with slightly thickened nerve-like margins, ½ to 1 line broad. Stipules minute or none. Peduncles longer than the phyllodia, bearing each a globular head of numerous small flowers, mostly 5-merous. Sepals linear-spathulate, distinct or slightly united at the base. Petals distinct, smooth, but with slightly prominent midribs. Pod very flat, stipitate, obtuse, 1 to 1½ in. long, about 5 lines broad, glaucous. Seeds nearly transverse, ovate, the last fold of the funicle dilated into a cup-shaped aril.

Queensland. Shoalwater Bay, *R. Brown;* Dawson river, *F. Mueller;* tributaries of the Macquarrie, *A. Cunningham*; on the upper Maranoa, *Mitchell*; also in *Leichhardt's Collection.*

SERIES VI. UNINERVES.—Phyllodia vertically flattened, either narrow and obtuse or with a short oblique or innocuous point, or broad and obtuse acute or rarely pungent-pointed, with 1 central or nearly marginal nerve, or very rarely 2-nerved. Flowers in globular heads, either on simple axillary peduncles, solitary or in pairs or clusters, or several in axillary racemes.

This series comprises all the species with 1-nerved phyllodia and globular flower-heads, where the phyllodia are not continuous with the stem as in the *Alatæ* and *Continuæ*, nor narrow and pungent as in the *Pungentes*, nor terete or tetragonous as in the *Calamiformes*, nor whorled as in the *Brunioideæ*. The nerve is usually central or nearly so, with the small veins, when conspicuous, pinnate or reticulate; where the nerve is excentrical or near the lower margin, one or two of the principal veins will sometimes arise from near the base on the upper side, but diverge from the midrib and are not continued to the end of the phyllodium as in the *Plurinerves*. *A. verniciflua*, and a very few others, have most or some of their phyllodia 2-nerved as in the 2-nerved *Plurinerves*, but are placed among the *Uninerves*, either because the second nerve is very inconstant or from their close affinity to species where it does not exist.

A. SPINESCENTES.—Rigid shrubs with spinescent branches. Phyllodia small, usually narrow, not pungent, without marginal glands. Stipules minute or none (except sometimes in *A. scabra*). Peduncles 1-headed.

Spinescent branches occur also in a very few of the *Armatæ* and of the *Triangulares* of the present series, in some of the *Pungentes*, and in *A. amblygona* among *Plurinerves*.

72. **A. scabra,** *Benth. in Linnæa*, xxvi. 605. A shrub with rigid divaricate spinescent branches, more or less scabrous-pubescent. Phyllodia linear-oblong, very oblique or falcate, obtuse or with a small recurved point, about ½ in. long, 1 to 2 lines broad, rather thick and 1-nerved, scabrous-pubescent or at length glabrous. Stipules small, setaceous or almost spinescent. Peduncles about as long as the leaves, bearing each a globular head of above 30 flowers, mostly 5-merous. Calyx thin, the lobes obtuse and ciliate, readily separating into spathulate sepals, fully half as long as the corolla. Petals thin, with slightly prominent midribs. Pod (not seen ripe) narrow-linear, flat, with thickened nerve-like margins.

W. Australia, *Drummond, 2nd Coll. n.* 162. Allied on the one hand to the following species, on the other to some of the narrow-leaved *Armatæ.*

73. **A. nodiflora,** *Benth. in Linnæa*, xxvi. 621. A shrub with long rigid virgate branches and divaricate branchlets, often spinescent and nearly glabrous. Phyllodia clustered on the old nodes, linear, oblique or falcate, obtuse or with a small oblique point, rarely above ½ in. long, ½ to 1 line broad, 1-nerved. Stipules minute or none. Peduncles slender, about as long as the phyllodia, bearing each a small globular head of numerous flowers, mostly 5-merous. Sepals narrow-linear, spathulate, free. Petals smooth, readily separating. Pod not seen.

W. Australia, *Drummond, 4th Coll. n.* 8.

74. **A. spinosissima,** *Benth. in Linnæa*, xxvi. 621. A glabrous shrub, with numerous slender striate spinescent branches. Phyllodia linear-falcate, obtuse or mucronulate, mostly 2 to 3 lines long, and under 1 line broad, obscurely 1-nerved. Peduncles slender, about as long as the phyllodia, bearing

each a very small head of 6 to 10 small flowers, mostly 5-merous. Calyx very short, truncate or sinuately toothed. Petals smooth. Pod linear, flat, with nerve-like margins, $1\frac{1}{2}$ or scarcely 2 lines broad, on a rather long stipes. Seeds nearly globular, the funicle filiform to the end, but not seen quite ripe.

W. Australia, *Drummond, 5th Coll. n.* 51.

75. **A. ulicina,** *Meissn. in Pl. Preiss.* ii. 202. A rigid spreading glabrous shrub of 2 to 4 ft., the branches sulcate-striate, the smaller short ones spinescent or reduced to small thorns. Phyllodia linear, obtuse or obliquely mucronate, often 1 in. long on the main branches, $\frac{1}{4}$ to $\frac{1}{2}$ in. on the side ones, obscurely 1-nerved. Peduncles short, bearing each a globular head of about 20 flowers, mostly 5-merous. Calyx obtusely lobed, half as long as the corolla. Petals smooth, but with prominent midribs. Pod linear, very flexuose, 1 to $1\frac{1}{2}$ lines broad, much contracted between the seeds. Seeds obovate-oblong, thick; the funicle with a first short filiform fold, the next thickened into a club-shaped, almost hood-shaped aril, almost as long as the seed.

W. Australia, *Drummond, 2nd Coll. n.* 147; Bowes river and S. Hutt river, *Oldfield.*

76. **A. erinacea,** *Benth. in Hook. Lond. Journ.* i. 360. A rigid spreading glabrous shrub, with striate spinescent branches. Phyllodia obliquely obovate-oblong or lanceolate, obtuse or mucronulate, 3 to 5 lines long and 1 to 2 broad, thick, rigid and obscurely 1-nerved. Peduncles 2 to 4 lines long, bearing each a head of about 20 or fewer flowers mostly 5-merous. Calyx very short, truncate or minute-toothed. Petals smooth, without prominent midribs. Pod not seen.

W. Australia, *Drummond (2nd or 3rd Coll.), n.* 163.

B. ARMATÆ.—Shrubs or undershrubs, not spinescent (except sometimes in *A. congesta* and *A. idiomorpha*). Phyllodia from obovate to lanceolate, rarely above $1\frac{1}{2}$ in. long, more or less undulate, with a central nerve and usually nerve-like margins, the marginal gland very small and obscure or none at all. Stipules generally persistent, either spinescent or subulate, or acuminate or phyllodia-like. Peduncles 1-headed.

Persistent rigid stipules and short undulate phyllodia are the characteristics of this group, but there are some species in which the stipules occasionally disappear, and spinescent stipules exist also in several of the *Triangulares* and in *A. sentis* and *A. dentifera* among *Angustifoliæ*; the undulate phyllodia occur also in *A. hispidula* and *A. undulifolia* among *Brevifoliæ*. I formerly considered *Armatæ* as a primary series, but finding the characters so vague, I have now thought it more convenient to divide them into subseries of *Uninerves* and *Plurinerves*.

77. **A. Huegelii,** *Benth. in Hueg. Enum.* 42. An erect bushy shrub, with nearly terete shortly hirsute branches. Phyllodia semiovate, recurved-falcate, $\frac{1}{2}$ to $\frac{3}{4}$ or rarely 1 in. long, 2 to 5 lines broad, tapering into a pungent point, narrowed at the base, often undulate, pubescent, with a curved central nerve. Stipules setaceous, almost spinescent. Peduncles short, bearing each a small head of 20 to 30 flowers, mostly 5-merous. Calyx none. Petals united above the middle, hirsute outside. Pod (according to Meissner) sessile, linear, falcate, 1 in. long, 2 lines wide, flat with nerve-like margins, pubescent.—Hueg. Bot. Archiv, t. 10; Meissn. in Pl. Preiss. i. 7.

W. Australia. Swan River, *Huegel*, *Fraser*; Swan River and Port Leschenault, *Preiss*, *n.* 953, 961; Tone and Vasse rivers, *Oldfield*.

78. **A. nervosa,** *DC. Mém. Leg.* 444; *Prod.* ii. 449. A glabrous erect shrub or under-shrub of 1 to 2 or 3 ft., branches prominently and acutely angular and striate. Phyllodia broadly lanceolate, incurved falcate, rather rigid, but usually undulate, tapering into a short point, 1 to $1\frac{1}{2}$ or rarely 2 in. long, with a nearly central nerve and nerve-like margins. Stipules spinescent. Peduncles short, usually 2 or 3 together, bearing each a head of 8 to 12 rather large flowers, mostly 4-merous. Calyx very short and broad, lobed, or sometimes scarcely any. Petals several times longer, smooth, spreading, united at the base only. Pod not seen.—Field and Gardn. Sert. Pl. t. 4; Meissn. in Pl. Preiss. i. 7, ii. 200.

W. Australia. Geographe Bay, *Baudin's Expedition*; Swan River, *Drummond*, 1*st Coll. n.* 230 or 238, *Fraser*, and others; Gordon river, *Oldfield*; summit of Green Mountain, *Preiss*, *n.* 936. The flowers resemble those of *A. myrtifolia*, but the stipules and inflorescence are quite different.

79. **A. obovata,** *Benth. in Hook. Lond. Journ.* i. 329. An undershrub or shrub of 1 to $1\frac{1}{2}$ ft., more or less scabrous-pubescent, with angular-striate branches. Lower phyllodia obovate or oblong, obtuse, 1 to $1\frac{1}{2}$ in. long, the upper ones broadly incurved-falcate, acute and pungent-pointed, all much undulate, with thickened nerve-like margins, a prominent midrib and pinnate veins. Stipules setaceous. Peduncles solitary or 2 or 3 together, about as long as the phyllodia, bearing each a head of about 6 to 8 flowers, mostly 4-merous, with a very short calyx as in *A. nervosa*, but more acuminate in the bud. Pod not seen.—Meissn. in Pl. Preiss. i. 8.

W. Australia. Cape Leewin, *Collie*; gravelly places, Green Mountain, *Preiss*, *n.* 931.

80. **A. congesta,** *Benth. in Hook. Lond. Journ.* i. 327. A rigid shrub, with divaricate terete pubescent branches, often spinescent. Phyllodia obliquely oval-oblong or falcate-lanceolate, obtuse or acute and shortly mucronate, $\frac{1}{2}$ to $\frac{3}{4}$ or rarely nearly 1 in. long, 2 to 4 lines broad, usually undulate, quite glabrous, not thick, with a prominent midrib and obscurely pinnate veins. Stipules very short, usually spinescent. Peduncles solitary or clustered, bearing each a globular head of numerous (40 to 50) small flowers, mostly 5-merous. Sepals free, linear-spathulate, fully half as long as the corolla. Petals smooth, glabrous. Pod linear, compressed but thick, much curved and contracted between the seeds. Seeds longitudinal, the last 2 folds of the funicle expanding into an oblique cup-shaped aril at the end of the seed. Meissn. in Pl. Preiss. ii. 200; *A. Baxteri*, Meissn. in Pl. Preiss. i. 7, not of Benth.

W. Australia, *Drummond*, 2*nd Coll. n.* 293; near York, *Preiss*, *n.* 977. Very much resembles some varieties of *A. armata*, but the stipules are smaller and the calyx and pod different.

81. **A. dermatophylla,** *Benth.* Quite glabrous. Branchlets angular. Phyllodia oblong-cuneate, somewhat falcate, undulate, with a very short rigid or callous point, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long, very thick and rigid, with a central nerve and thick nerve-like margins, scarcely prominent. Stipules rigid, subulate, persistent. Peduncles shorter than the phyllodia, bearing each a dense glo-

bular head of about 20 flowers, mostly 5-merous. Sepals narrow, linear-spathulate, free or shortly united at the base. Petals smooth. Pod unknown.

W. Australia. Murchison river, *Oldfield*. The specimens are small, but the smooth thick phyllodia distinguish them from all the *Acaciæ*, except some varieties of *A. nervosa*, from which it is easily known by the broader phyllodia, less pungent stipules, and much more numerous 5-merous flowers.

82. **A. aspera,** *Lindl. in Mitch. Three Exped.* ii. 139. A spreading shrub, attaining several ft., very resinous and rough with a glandular viscid pubescence; branches rigid, nearly terete, striate. Phyllodia oblong-linear, oblique and more or less undulate, obtuse or with an incurved innocuous point, ½ to 1 in. or rarely 1½ in. long, with a central nerve and slightly thickened nerve-like margins. Stipules small, setaceous. Peduncles solitary or in pairs, not above ½ in. long, rather thick, bearing each a dense globular head of 30 to 50 or more flowers, mostly 5-merous. Bracts usually acuminate and protruding beyond the buds. Sepals spathulate, glandular-pubescent at the end, more or less united to the middle. Petals smooth, glabrous, united to the middle. Pod linear, curved, glandular-hispid, 1 to 2 in. long, about 2 lines broad, contracted between the seeds. Seeds longitudinal, oval-oblong; funicle with short folds, the last 2 thickened into an almost cup-shaped aril at the base of the seed.—F. Muell. Pl. Viet. ii. 21; *A. erythrocephala*, A. Cunn.; Benth. in Hook. Lond. Journ. i. 362 (a narrow-leaved form).

N. S. Wales. Lachlan river, *A. Cunningham.*

Victoria. Junction of the Loddon and Murray, *Mitchell*; open barren forest-lands and scrubby ridges, Serra and Victoria ranges, Grampians, Forest Creek, Black Forest, Goulburn and Broken rivers, *F. Mueller.*

Var. *densifolia.* Phyllodia smaller. Flower-heads almost sessile. Bracts much less acuminate.—*A. strigosa*, Lindl. in Mitch. Three Exped. ii. 185, not of Link; *A. densifolia*, Benth. in Hook. Lond. Journ. i. 360.—Near Mount Zero, *Mitchell.*

This species has been sometimes confounded with *A. hispidula*, which is however readily known by the tuberculate almost denticulate margins of the phyllodia, the smaller heads with fewer flowers and especially by its short broad thick straight 1- or 2-seeded pod.

83. **A. armata,** *R. Br. in Ait. Hort. Kew. ed.* 3, v. 463. A tall bushy shrub, attaining sometimes 10 ft. or more; branches angular-striate, hirsute-pubescent or rarely glabrous. Phyllodia semiovate, obliquely oblong or incurved-lanceolate, undulate, obtuse or with a very short oblique point, with a nearly central midrib and pinnate veins, varying from 4 lines to above 1 in. in length, and in breadth from one-fifth to nearly half their length. Stipules straight, divaricate and spinescent, often 4 to 5 lines long. Peduncles usually about as long as the phyllodia, bearing a globular head of rather numerous 5-merous flowers. Calyx thin, lobed, but not usually separating into sepals, about half as long as the corolla. Petals narrow, glabrous, smooth. Pod straight or curved, 1½ to 2 in. long, 2 to 3 lines broad, not contracted between the seeds, softly villous or rarely glabrous or hispid. Seeds oblong, longitudinal, the funicle slightly dilated nearly from the base, forming 3 or 4 folds, scarcely more thickened under the seed.—Bonpl. Jard. Malm. t. 55; DC. Prod. ii. 449; Bot. Mag. t. 1653; Lodd. Bot. Cab. t. 49; F. Muell. Pl. Vict. ii. 3; *A. furcifera*, Lindl. in Mitch. Three Exped. ii. 267.

N. S. Wales. Blue Mountains and in the interior to Peel's Range, *A. Cunningham*; northward to New England, *C. Stuart.*

Victoria. Barren ridges from near Port Phillip to Goulburn and Broken rivers, near Forest Creek and towards the mouth of the Glenelg, *F. Mueller.*

S. Australia. From the Murray to Spencer's and St. Vincent's Gulfs and Mount Remarkable, *F. Mueller;* Kangaroo Island, *R. Brown, Waterhouse.*

W. Australia. King George's Sound (or to the E.?), *Baxter;* Murchison river, *Oldfield.*

Var. *angustifolia.* Phyllodia narrower.—*A. paradoxa*, DC. Prod. ii. 449; *A. undulata*, Wild. Enum. Hort. Berol. Suppl. 68; Wendl. Comm. Acac. t. 3; Bot. Reg. t. 843; Lodd. Bot. Cab. t. 753; Reichb. Ic. et Descr. Pl. t. 89.

This species is now an old inmate of our gardens, where it varies much, and is said to have been frequently hybridized. Some of these forms have a second nerve to some or all the phyllodia, or have the stipules very small or none. These garden forms include *A. ornithophora*, Sweet, Fl. Austral. t. 24; Lodd. Bot. Cab. t. 1469; *A. hybrida*, Lodd. Bot. Cab. t. 1342; *A. micracantha*, Dietr. in Allgem. Gart. Zeit. t. 83; *A. tristis*, Grah. in Bot. Mag. t. 3420. It is possible that a few of the Western or out-of-the-way stations given for the species, may have been erroneously founded on cultivated specimens sent as wild.

84. **A. idiomorpha,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 329. A shrub with very rigid divaricate often spinescent branches, softly villous as well as the phyllodia. Phyllodia broadly and obliquely ovate, undulate, pungent-pointed, about ½ in. long, with a strong central nerve and nerve-like margins. Stipules spinescent, recurved. Flowers (only seen in a single globular head sent with the specimen but not attached to it) numerous, 5-merous, glabrous or nearly so.

W. Australia. Dirk Hartog's Island, *A. Cunningham.*

85. **A. Shuttleworthii,** *Meissn. in Pl. Preiss.* i. 7. Apparently shrubby, hirsute or hispid with short hairs; branches terete or slightly angular. Phyllodia broadly ovate or orbicular, very oblique, mucronate, thick rigid and much undulate, ¼ to ½ in. long, obliquely obtuse at the base, sessile, 1-nerved; the gland, if any, at or below the middle. Stipules minute, setaceous, sometimes spinescent. Peduncles very short, bearing each a head of about 8 to 12 flowers, mostly 5-merous. Calyx lobed, about half as long as the corolla. Petals free, hispid. Pod flat, but thick and coriaceous, about 3 lines broad, either 1-seeded and nearly orbicular, or 2-seeded and twice as long, very obtuse, scabrous-pubescent, perhaps sometimes longer as there are several ovules.

W. Australia, *Drummond, n.* 294.

86. **A. Gregorii,** *F. Muell. Fragm.* iii. 47. A diffuse or procumbent shrub or undershrub of 1 to 1½ ft., softly pubescent. Phyllodia obovate or oblong with a small usually recurved point, narrowed at the base, mostly ½ to ¾ in. long, undulate, somewhat coriaceous, 1-nerved and penniveined. Stipules small, lanceolate, acuminate, dry and persistent. Peduncles solitary, nearly as long as the phyllodia, bearing a globular head of 30 to 40 or more flowers, mostly 5-merous. Bracts acuminate. Calyx more than half as long as the corolla, with narrow thin ciliate lobes. Petals slightly pubescent, smooth with prominent midribs, cohering to the middle. Pod unknown.

N. Australia. Nichol Bay, N.W. coast, *F. Gregory's Expedition.* A second label describes it as a very rigid prickly shrub of 6 to 8 ft., but has evidently been misplaced.

87. **A. pilosa,** *Benth. in Linnæa*, xxvi. 607. A decumbent branching undershrub or shrub, often under 1 ft., but probably sometimes taller, more

or less hirsute with rather long spreading hairs. Phyllodia oblique, obovate or broadly oblong, shortly acute or mucronate, much narrowed at the base, much undulate, 1-nerved, mostly $\frac{1}{2}$ to 1 in. long. Stipules setaceous, almost spinescent. Peduncles about as long as the phyllodia, slender, bearing each a small globular head of about 12 to 20 flowers, mostly 5-merous. Calyx-lobes ciliate, fully half as long as the corolla. Petals hirsute, cohering to the middle. Pod oblong, flat, very coriaceous, obtuse, hispid, few-seeded, but not seen ripe.

W. Australia, *Drummond, Suppl. to 3rd Coll. n.* 35, *5th Coll. n.* 12; Gordon and Kalgan rivers, *Oldfield*; Phillips Ranges, *Maxwell.*

88. **A. crispula,** *Benth. in Linnæa,* xxvi. 607. Very near *A. pilosa* in habit and essential characters, but the phyllodia are much narrower, falcate-oblong, rarely exceeding $\frac{1}{2}$ in. in length, 1 to $1\frac{1}{2}$ lines broad, obtuse, shortly acute or mucronate, narrowed at the base, undulate, rather thick and 1-nerved. Stipules setaceous or spinescent. Peduncles slender, bearing a head smaller than in *A. pilosa,* though often with more flowers, 5-merous and hirsute as in that species. Pod unknown.

W. Australia, *Drummond, n.* 78. Possibly a narrow-leaved variety of *A. pilosa.*

89. **A. crassistipula,** *Benth. in Hook. Lond. Journ.* i. 326. Apparently a small shrub, more or less hirsute with soft spreading hairs; branches angular. Phyllodia oblong-linear, falcate, undulate, with a short incurved or hooked point, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, 1-nerved with nerve-like margins. Stipules like the phyllodia and about half their size, persistent. Peduncles rather shorter than the phyllodia, bearing each a small globular head of about 30 to 40 flowers, mostly 5-merous. Calyx turbinate, shortly lobed, more than half as long as the corolla. Petals pubescent or hirsute, smooth, but with a prominent midrib, cohering to the middle. Pod unknown.

W. Australia, *Drummond, n.* 295. Allied to the last 3 species, but distinguished from the whole genus by the phyllodineous stipules.

C. TRIANGULARES.—Shrubs usually rigid and occasionally spinescent. Phyllodia small, rigid, the nerve either near the lower margin or rarely central, the upper side more or less dilated, the margin rounded or angular, with usually a gland at the angle. Stipules spinescent or setaceous or minute. Peduncles 1-headed.

These are generally characterized by the small phyllodia with the lower margin nearly straight, the upper one forming a very prominent obtuse or acute angle. They pass into the small-leaved *Pungentes* through some varieties of *A. vomeriformis,* where the glandular angle almost disappears, and into the subseries *Brevifoliæ,* through some forms of *A. bidentata,* which come very near to *A. obliqua.* As in the case of the *Armatæ,* I had originally established the *Triangulares* as a distinct series, but it now appears more natural to separate the many-nerved from the one-nerved species, and consider them as subseries only of the *Plurinerves* and *Uninerves.*

90. **A. hastulata,** *Sm. in Rees Cycl.* xxxix. *Suppl.* A shrub of 2 or 3 ft.; branches rather slender, elongated, virgate or divaricate, terete, pubescent or at length glabrous. Phyllodia numerous, hastate-lanceolate or almost cordate, tapering into pungent points, 2 to 3 lines long, with 1 central nerve, the lower margin rounded near the base, the upper one more angular and usually bearing a gland. Stipules setaceous, persistent. Peduncles very

short and slender, bearing each a head of 3 to 5, usually 4, flowers, mostly 4-merous. Calyx very short, with broad obtuse lobes. Petals smooth, glabrous. Pod 1 to 2 in. long, scarcely above 1 line broad, curved, acuminate, nearly terete, longitudinally striate, coriaceous, glabrous or sprinkled with a few hairs. Seeds oblong, longitudinal; the last fold of the funicle thickened into a short aril under the seed.—DC. Prod. ii. 449; Bot. Mag. t. 3341; Meissn. in Pl. Preiss. i. 10.

W. Australia. Sandy and rocky places, King George's Sound and adjoining districts, *R. Brown*, *Menzies*, *Preiss*, *n.* 959, and others.

91. **A. horridula,** *Meissn. in Pl. Preiss.* i. 9. A shrub of 2 or 3 ft.; branches virgate, rigid, terete or slightly sulcate, pubescent. Phyllodia numerous, obliquely ovate-lanceolate or lanceolate, tapering into a pungent point, 3 to 4 or rarely 5 lines long, the upper angle near the base slightly prominent, with or without a small gland, rigid, with a nearly central nerve, glabrous or pubescent. Stipules setaceous, rigid. Peduncles shorter than the phyllodia, bearing each a head of 3 to 5, usually 4, flowers, mostly 4-merous. Calyx very short, with broad obtuse lobes. Petals acute, densely villous. Pod pubescent when young, not seen fully formed.

W. Australia, *Drummond*, *Preiss*, *n.* 1151; Canning river, *Preiss*, *n.* 965; Harvey river, *Oldfield*. Although very near *A. hastulata*, this species appears to be distinguishable by its more rigid, more oblique, less acuminate phyllodia, and narrower villous petals. Some specimens of Harvey's from King George's Sound appear, however, to be almost intermediate.

92. **A. divergens,** *Benth. in Hook. Lond. Journ.* i. 331. Glabrous or pubescent; branches angular, divaricate, rather slender. Phyllodia numerous, triangular or 2-lobed, tapering to a pungent point, 2 to 4 lines long, the upper angle or lobe diverging at right angles from the base of the phyllodium and usually bearing a gland, the midrib adjoining the lower straight margin. Stipules small, setaceous, almost spinescent, diverging from the base of the midrib. Pedicels filiform, often rather longer than the phyllodia, bearing each a small globular head of 8 to 12 flowers, mostly 4-merous. Calyx short, open, broadly lobed. Petals smooth, glabrous. Pod not seen.

W. Australia, *Drummond*, *2nd Coll. n.* 159; Vasse river, *Mrs. Molloy*. Resembles in foliage some forms of *A. vomeriformis*, but the flowers are quite different.

93. **A. vomeriformis,** *A. Cunn.*; *Benth. in Hook. Lond. Journ.* i. 332. A diffuse or procumbent rigid shrub; branches terete, pubescent or glabrous. Phyllodia numerous, from obliquely lanceolate to broadly triangular or 2-lobed, rigid and pungent-pointed, 2 to 4 lines long, the upper angle below the middle, either short and rounded or very prominent, rarely bearing a gland, the midrib usually adjoining the lower straight margin. Peduncles slender, about as long as the phyllodia or longer, bearing each a globular head of above 30 flowers, mostly 5-merous. Sepals spathulate, united above the middle or at length free, thick and dark at the top, half as long as the corolla. Petals glabrous, smooth, readily separating. Pod linear, often elongated, flat, coriaceous, glabrous, about 2 lines broad, contracted between the seeds. Seeds nearly orbicular; funicle short, filiform to the end.—F. Muell. Pl. Vict. ii. 7; Dietr. Fl. Univers. N. Ser. t. 82; *A. Gunnii*, Benth. in Hook. Lond. Journ. i. 332; Hook. f. Fl. Tasm. i. 104. t. 18.

N. S. Wales. Blue Mountains and westward towards the Macquarrie, *A. Cunningham, Fraser, Huegel, Miss Atkinson*; New England, *C. Stuart*.

Victoria. Barren mountains, forests and scrubs, Forest Creek, Grampians, Mitta-Mitta and Macalister rivers, sources of the Genoa river, etc., ascending to 4000 ft., *F. Mueller*.

Tasmania. Port de l'Espérance, *R. Brown*; S. Esk river, near Hobarton, near Campbeltown, etc., *J. D. Hooker*.

S. Australia. Lofty Range, *Whittaker, F. Mueller*; Tattiara country, *J. E. Woods*.

94. **A. biflora,** *R. Br. in Ait. Hort. Kew. ed.* 3. v. 463. A diffuse or bushy shrub, branches scarcely angular, pubescent or rarely glabrous. Phyllodia more or less triangular, 3 or 4 lines or rarely ½ in. long, with a small pungent point, the principal nerve near the lower straight margin, the upper margin forming a prominent angle above the middle, usually bearing a gland, and occasionally a secondary nerve tending towards it. Stipules setaceous or spinescent. Peduncles short, bearing each 2 or very rarely more 4-merous flowers, acuminate in the bud. Calyx short, ciliate, with broad lobes. Petals rather rigid but not striate. Pod flat with thickened nerve-like margins, often ½ in. long, 1½ to 2 lines broad, acuminate and narrowed at the base, valves coriaceous. Seeds longitudinal, the last fold of the funicle thickened into a small aril under the seed.—Wendl. Comm. Acac. t. 2; DC. Prod. ii. 449; Reichb. Ic. et Descr. Pl. t. 12; *A. triangularis*, Benth. in Hueg. Enum. 42; Meissn. in Pl. Preiss. i. 10.

W. Australia. King George's Sound and eastward to Cape Riche, *R. Brown, Baxter, Drummond, 4th Coll. n.* 3, *Preiss, n.* 963 *and* 966, and others; Vasse river, *Mrs. Molloy*. It varies in the buds nearly obtuse or much acuminate; and very rarely most of the flower-heads have 3, 4 or even 5 flowers.

95. **A. decipiens,** *R. Br. in Ait. Hort. Kew. ed.* 3. v. 463. A bushy shrub, sometimes low and diffuse, but frequently attaining 10 to 12 ft., glabrous or rarely sparingly hirsute. Phyllodia triangular or irregularly trapeziform, rigid, usually 4 to 8 lines long and nearly as broad at the top, the principal nerve near the lower straight margin and ending in a small point, the upper margin forming 1 or rarely 2 very prominent angles, tipped with a gland, and occasionally there are 1 or 2 faint secondary nerves. Stipules here and there spinescent. Peduncles short, bearing each a head of 6 to 10 flowers mostly 4-merous, obtuse in the bud. Calyx short, broadly lobed. Petals free, glabrous and smooth. Pod thick and hard, glabrous, much incurved, 1 to 2 in. long, 1 to 1½ lines broad, acuminate and narrowed at the base, scarcely contracted between the seeds. Seeds oblong, longitudinal; funicle with the last folds dilated into a thick obliquely turbinate aril.—*Mimosa decipiens*, Kon. in Sm. Ann. Bot. i. 366. t. 8; *A. decipiens*, DC. Prod. ii. 449; Bot. Mag. t. 1745, 3244; Meissn. in Pl. Preiss. i. 8; Reichb. Ic. et Descr. Pl. t. 12, and 88; *A. dolabriformis*, Colla, Hort. Ripul. 1, not of Wendl.; *A. incrassata*, Hook. Ic. Pl. t. 370; *A. biflora*, Paxt. Mag. ix. 221, with a fig., not of R. Br.

W. Australia. King George's Sound and adjoining districts, *R. Brown, A. Cunningham, Drummond, n.* 296, *Preiss, n.* 955, 962, 967, 968, and others; Vasse river, *Mrs. Molloy*; Gordon river, *Oldfield*. It varies much in the comparative length and breadth of the phyllodia, the broadest part always above the middle, occasionally the upper angle is broadly rounded, projecting much beyond the mucronate angle, approaching the prevailing form in *A. bidentata*, the phyllodium then usually much longer, sometimes nearly 1 in. long.

96. **A. cuneata,** *Benth. in Hueg. Enum.* 42. A tall shrub, glabrous or

with loosely hirsute angular branches. Phyllodia cuneate-oblong, truncate at the end, ½ to 1 in. long, the nerve much more central than in *A. decipiens*, curved and ending in a small point at the lower angle, the upper one usually also acute and sometimes longer, tipped with a gland. Stipules setaceous. Peduncles nearly as long as the phyllodia, bearing each a globular head of 8 to 15 flowers, mostly 4-merous, smaller than in *A. decipiens*. Calyx broadly turbinate, half as long as the corolla, with broad obtuse lobes. Petals smooth. Pod much curved, hirsute, coriaceous, with thickened margins, 2 to 3 in. long, about 2 lines broad.—Meissn. in Pl. Preiss. i. 9.

W. Australia. Swan River and Rottenest island, *Fraser*, *Huegel*, *Drummond*, *n.* 257 (or 297?), *Preiss*, *n.* 954, 956, 957, and others. Nearly allied to *A. decipiens*, but the differences both in phyllodia and flowers appear to be constant.

97. **A. dilatata,** *Benth. in Linnæa*, xxvi. 608. A rigid shrub, softly pubescent. Phyllodia broadly triangular-cuneate, rigidly coriaceous, ½ to ¾ in. long and almost as broad at the top, the principal nerve near the lower straight margin, with usually 1 or 2 other nerves diverging from the base, the upper angle obtuse, usually without any gland. Stipules setaceous or spinescent. Peduncles rarely ½ in. long, bearing each a globular head of about 20 flowers, mostly 5-merous. Calyx half as long as the corolla, with narrow ciliate lobes. Petals strongly striate, hispid with a few rigid hairs. Pod not seen.

W. Australia, *Drummond.* The shape of the phyllodia is not unlike that of some of the thick and broad-leaved forms of *A. decipiens*, but the flowers are very different.

98. **A. bidentata,** *Benth. in Hook. Lond. Journ.* i. 333. A very rigid divaricate shrub; branches terete, pubescent, or rarely nearly glabrous, occasionally spinescent. Phyllodia obovate or cuneate-oblong, 2 to 4 lines or rarely ½ in. long, thick and rigid, the principal nerve near the lower straight margin terminating in a small point, with a secondary nerve usually diverging from the base, the upper margin forming a broad rounded or rarely acute lobe or angle, often longer than the point. Stipules minute. Peduncles often exceeding the phyllodia, bearing each a small globular head of about 8 to 15 flowers, either 4-merous or 5-merous. Calyx very small and thin. Petals smooth. Pod (only seen loose) much curved or twisted, about 1½ lines broad, with flat thinly coriaceous valves. Seeds longitudinal.—Meissn. in Pl. Preiss. i. 10.

W. Australia, *Drummond*, *Preiss*, *n.* 958, 969; Kojonerup and Gardner ranges, *Maxwell.*

99. **A. acanthoclada,** *F. Muell. Fragm.* iii. 127, *and Pl. Vict.* ii. 4. A rigid divaricate spinescent shrub, with the habit, characters, small rigid phyllodia and flowers of *A. bidentata*, and very probably a variety only of that species, differing only in the phyllodia all narrow-cuneate slightly notched at the end, one angle or lobe acute or mucronate, the other obtuse. Neither species (or variety) has been seen in good fruit.

Victoria. Sand ridges of the Murray desert, especially about Kielkoyne, *Howitt's Expedition.*

W. Australia, *Drummond.* Specimens apparently precisely similar to those from the Murray.

D. Brevifoliæ. Shrubs, never spinescent. Phyllodia either broad, ovate or falcate, or narrow-oblong or linear, short, mostly under 1 in. long, obtuse or with a small recurved innocuous point, or sometimes undulate and more pointed. Stipules minute or none. Peduncles 1-headed.

These species pass into the *Triangulares* through *A. obliqua*, into the short-leaved *Calamiformes* through *A. lineata*, and some forms of *A. dura*; and the shorter-leaved forms of *A. montana* and some others of the *Angustifoliæ*, might almost be included in the present subseries. *A. anceps* is very variable in the form of its phyllodia, and they are usually larger than in other *Brevifoliæ*, but on the whole, it appears to be better placed here than in any other subseries of *Uninerves*.

100. **A. obliqua,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 334. A much-branched shrub, attaining sometimes several ft., glabrous or slightly pubescent. Phyllodia obliquely obovate or orbicular, from ¼ to nearly ½ in. long, the principal nerve scarcely prominent, near the lower margin, and terminating in a minute recurved point, with often 1 or 2 fainter nerves diverging from the base. Stipules minute. Peduncles slender, solitary or in pairs, usually exceeding the phyllodia, bearing each a globular head of about 8 to 15 flowers, mostly 5-merous. Sepals distinct, linear-spathulate, fully half as long as the corolla. Petals smooth. Pod linear, twisted, 1½ to 2 lines broad, with coriaceous valves. Seeds ovate, longitudinal; funicle not folded, scarcely so long as the seed, gradually thickened almost from the base into a clavate fleshy aril.—*A. cyclophylla*, Schlecht. in Linnæa, xx. 663; *A. rotundifolia*, Hook. Bot. Mag. t. 4041; Paxt. Mag. xv. 123, with a fig.

N. S. Wales. Near Bathurst, *Fraser*; between the Lachlan and Macquarrie rivers, *A. Cunningham*; Nangas, *M'Arthur.*

Victoria. At and near the Ovens ranges, *F. Mueller.*

S. Australia. Scrub of the Murray, *Behr*; Encounter Bay, *Whittaker*; Lofty, Barossa, and Flinders ranges, *F. Mueller.*

Some specimens resemble some of the broader-leaved forms of *A. bidentata*, but are less rigid, never spinescent, and the calyx is different. The flowers and fruit are those of *A. acinacea*, with which F. Mueller proposes to unite it as a broad-leaved variety.

101. **A. acinacea,** *Lindl. in Mitch. Three Exped.* ii. 267. A much-branched shrub of several feet, usually glabrous, with the habit and essential characters of *A. obliqua* and *A. lineata*, and scarcely differing from either except in the shape of the phyllodia, which are obliquely oblong or somewhat falcate, rarely above ½ in. long, obtuse at the end, with a small recurved point usually under a small gland, the nerve somewhat excentrical, the marginal gland below the middle or none. Peduncles slender, often exceeding the phyllodia, bearing each a globular head of about 10 to 20 flowers, mostly 5-merous. Sepals distinct, linear spathulate. Petals smooth. Pod linear, curved or twisted, coriaceous, 1½ to 2 lines broad. Seeds longitudinal, the funicle thickened into a clavate fleshy aril, scarcely so long as the seed.—F. Muell Pl. Vict. ii. 5; *A. Latrobei*, Meissn. in Pl. Preiss. i. 10.

Victoria. Near Mount William, *Mitchell*; grassy and somewhat scrubby ridges throughout the greater part of the colony, except the eastern districts, *F. Mueller.*

S. Australia. Memory Cove, *R. Brown*; near Spencer's Gulf and Flinders Range, *F. Mueller.*

102. **A. lineata,** *A. Cunn. in G. Don, Gen. Syst.* ii. 403. A bushy shrub of several feet; branches nearly terete, usually pubescent or villous and sometimes slightly resinous. Phyllodia linear, with a small hooked point,

about ½ in. long or rarely ¾ in. or rather more, the nerve very near the lower margin and usually without any gland. Stipules minute. Peduncles slender, rarely exceeding the phyllodia, bearing each a small globular head of 10 to 15 or rarely more flowers, mostly 5-merous. Sepals distinct, linear-spathulate. Petals smooth. Pod linear, curved or twisted, coriaceous, 1½ to 2 lines broad. Seeds longitudinal, the funicle thickened into a clavate fleshy aril scarcely so long as the seed.—Bot. Mag. t. 3316; *A. runciformis*, A. Cunn. in G. Don, Gen. Syst. ii. 404; F. Muell. Pl. Vict. ii. 21; *A. dasyphylla*, A. Cunn.; Benth. in Hook. Lond. Journ. i. 359 (a more pubescent form); *A. imbricata*, F. Muell. Fragm. i. 5, ii. 177.

N. S. Wales. Liverpool Plains, Wellington Valley, etc., *A. Cunningham.*

Victoria. N.W. desert, *Lockhart Morton.*

S. Australia. Port Lincoln and Dombey Bay, *F. Mueller.*

The habit, inflorescence, flowers and fruit are those of *A. obliqua* and *A. acinacea*, from which this species only differs in the narrow phyllodia. I have not followed F. Mueller in taking up the name of *runciformis*, because that of *lineata*, of the same date, is universally adopted by gardeners as well as botanists, and does not appear to me to be in itself objectionable.

103. **A. triquetra,** *Benth. in Hook. Lond. Journ.* i. 358. A glabrous erect shrub; branches acutely angled. Phyllodia linear, obtuse or with a minute recurved point, mostly under 1 in. long, narrowed at the base, the nerve nearly central, the marginal gland minute or none. Stipules minute. Peduncles rarely exceeding the phyllodia, bearing each a small globular head of numerous very small flowers, mostly 5-merous. Sepals narrow-linear, spathulate, ciliate. Petals smooth, narrow, distinct, almost clawed. Pod much curved, flat with nerve-like margins, 2 to 3 in. long, 1¼ lines broad. Seeds oblong, longitudinal, the funicle not folded, thickened into a short club-shaped fleshy aril.—*A. Meissneri*, var. *angustifolia*, Meissn. in Pl. Preiss. i. 13.

W. Australia, *Baxter, Drummond, n.* 109 *and* 292. Differs from *A. lineata* in its glabrous very angular branches, from *A. Meissneri* in its narrow phyllodia and in the pod.

104. **A. ligustrina,** *Meissn. in Pl. Preiss.* ii. 203. A glabrous shrub with acutely angled branches, very closely allied to *A. triquetra*, but apparently differing in the more coriaceous obliquely lanceolate phyllodia, often above 1 in. long, narrowed at both ends, the lateral veins quite inconspicuous, and usually with 2 or 3 small distant glands on the upper margin. Flowers numerous, mostly 5-merous, in small globular heads; sepals linear-spathulate and petals smooth as in *A. triquetra.* Pod unknown.

W. Australia, *Drummond, 2nd Coll. n.* 150.

105. **A. Meissneri,** *Lehm. Del. Sem. Hort. Hamb.* 1842. A tall shrub, quite glabrous and often glaucous, the young shoots very angular. Phyllodia obliquely obovate-oblong or almost cuneate, obtuse or with a small hooked point, ½ to 1 in. long, 2 to 4 lines broad, much narrowed at the base, coriaceous but thinner than in *A. anceps*, without nerve-like margins, 1-nerved and slightly penniveined. Peduncles shorter than the phyllodia, bearing each a small globular head of numerous (about 30) small flowers, mostly 5-merous. Sepals free, narrow, linear-spathulate, slightly ciliate at the top. Petals very narrow, smooth, quite distinct. Pod almost sessile, elongated, flat, 3 to 4 lines broad, the margins not thickened. Seeds oblong, longitudinal; funicle

very long and much folded, the last fold almost encircling the seed and returning, but thickened only at the end.—Meissn. in Pl. Preiss. i. 13.

W. Australia. Muddy sandy places near York, *Preiss, n.* 930; Swan River, *Mylne.*

106. **A. anceps,** *DC. Mem. Leg.* 446, *and Prod.* ii. 451. An erect shrub of several feet, quite glabrous, and often of a glaucous or purplish hue, the branches rigid, very acutely angled when young. Phyllodia from broadly ovate to oblong, attached by a broad base and only partially articulate, the lower edge continuous and shortly decurrent, $1\frac{1}{2}$ to 2 in. long and $\frac{1}{2}$ to $1\frac{1}{2}$ in. broad, or even larger on barren branches, very rigid, often undulate, 1-nerved, penniveined, with thickened margins. Peduncles from under $\frac{1}{2}$ to nearly 1 in. long, thick, bearing each a rather large globular head of numerous flowers, mostly 5-merous. Calyx more than half as long as the corolla, turbinate, broadly and obtusely toothed. Petals smooth, readily separating. Pod stipitate, straight, flat, rigidly coriaceous, very obtuse, about $1\frac{1}{2}$ in. long and $\frac{1}{2}$ in. broad. Seeds longitudinal; funicle long, filiform, much folded, shortly thickened at the end, but not seen perfect.—*A. Muelleri,* Benth. in Linnæa, xxvi. 603.

S. Australia. St. Peter's Island, Nuyts' Archipelago, *Baudin's Expedition;* Port Lincoln, *R. Brown, F. Mueller;* towards Spencer's Gulf, *Warburton.*

Var. (?) *angustifolia.* Branches rather less angular. Phyllodia from narrow-obovate to linear-oblong, 1 to 2 in. long, occasionally with a prominent gland above the middle. Peduncles under $\frac{1}{2}$ in. long.—S. coast, *R. Brown;* towards Spencer's Gulf, *Warburton.* This variety has sometimes almost the phyllodia of *A. notabilis,* but the peduncles are always simple.

107. **A. hispidula,** *Willd. Spec. Pl.* iv. 1054. A rigid spreading shrub, scabrous all over with very short stiff hairs or tubercles. Phyllodia numerous, broadly falcate, with a minute point, cuneate at the base, mostly $\frac{1}{2}$ to $\frac{3}{4}$ in. long, 2 to 3 lines broad, with a central nerve and thickened nerve-like margins more or less tuberculate or almost denticulate. Peduncles short, bearing each a small globular head of 12 to 20 flowers, mostly 5-merous. Calyx lobed, about half as long as the corolla. Petals smooth, connate to the middle. Pod ovate and 1-seeded or oblong and 2-seeded, very obtuse, about 4 lines broad, flat but thickly coriaceous, without prominent margins. Seeds oval-oblong, longitudinal; funicle with the last fold much thickened and nearly as long as the seed, and shortly folded below it.—*Mimosa hispidula,* Sm. Bot. Nov. Holl. 59, t. 16; *A. hispidula,* DC. Prod. ii. 450; Lodd. Bot. Cab. t. 823; Hook. Ic. Pl. t. 161.

N. S. Wales. Port Jackson, *R. Brown* and others. This species has been confounded with *A. aspera,* which has scabrous-pubescent but not tuberculate phyllodia, denser flower-heads and a very different pod, besides the stipules usually persistent.

108. **A. undulifolia,** *A. Cunn. in G. Don, Gen. Syst.* ii. 404. A shrub sometimes low and bushy, but often attaining a great size, and very handsome from its long pendulous garland-like flowering branches; branchlets slightly angular but soon terete, pubescent, hirsute or rarely glabrous. Phyllodia numerous, ovate or almost orbicular, very obliquely truncate or narrowed at the base and often petiolate, usually about $\frac{1}{2}$ in. but varying from $\frac{1}{4}$ to nearly 1 in. long, coriaceous, undulate, 1-nerved and penniveined, the margins thickened, terminating in a short or fine point. Peduncles slender, often

exceeding the phyllodia, bearing each a globular head of 20 to 30 or more flowers, mostly 5-merous. Calyx very short, toothed. Petals smooth, united above the middle. Pod shortly stipitate, 7 to 9 lines broad, very flat, with nerve-like margins. Seeds flat, ovate, oblique; funicle with the last fold thickened and not half so long as the seed, and short folds below it.—Bot. Mag. t. 3394; Lodd. Bot. Cab. t. 1544; Lemaire, Jard. Fleur. t. 282; *A. uncinata*, Lodd.; Lindl. Bot. Reg. t. 1332; *A. piligera*, A. Cunn. in Bot. Mag. under n. 3394; Hook. Ic. Pl. t. 166 (*A. setigera*, A. Cunn.).

Queensland. Near Brisbane, *F. Mueller, Leichhardt.*

N. S. Wales. Blue Mountains, *R. Brown*; abundant in thickets, barren woods, etc., in the N.W. interior, beyond Bathurst, Cox's River, Liverpool Plains, etc., *A. Cunningham, Fraser, Mitchell,* and others.

Var. *sertiformis.* More glabrous, with larger phyllodia, not contracted at the base.—*A. sertiformis,* A. Cunn. in Bot. Mag. under n. 3394; Hook. Ic. Pl. t. 159. Liverpool Plains.

Var. *dysophylla.* Softly villous. Phyllodia large.—*A. dysophylla,* Benth. in Hook. Lond. Journ. i. 346.—Pine ridge near Croker's Range, *A. Cunningham.*

Var. *humilis.* Diffuse and low, glabrous. Phyllodia not above 3 or 4 lines long, very oblique and often recurved, nearly as broad as long.—N.W. interior of N. S. Wales, *Fraser*; also the Brisbane specimens from *F. Mueller and Leichhardt.*

A. plagiophylla, F. Muell. in Journ. Linn. Soc. iii. 131, not of Sieber, belongs probably to one of the varieties of *A. undulifolia.*

109. **A. flexifolia,** *A. Cunn.*; *Benth. in Hook. Lond. Journ.* i. 359. Shrubby, the branches terete or nearly so, hoary with a minute tomentum. Phyllodia numerous, linear, obtuse, scarcely mucronate, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, rigidly coriaceous and glabrous, narrowed at the base, with an impressed gland and often bent in at a little distance from the base, with a prominent nerve very near the lower margin, the upper margin thickened and nerve-like. Stipules minute. Peduncles very short, solitary or in pairs, tomentose, bearing each a small globular head of 6 to 10 very small flowers, mostly 5-merous. Calyx thin, shortly lobed, not half as long as the corolla. Petals smooth, united to the middle.

N. S. Wales. Cugeegong river and between Lachlan and Macquarrie rivers, *A. Cunningham.*

110. **A. dura,** *Benth. in Linnæa*, xxvi. 622. A low rigid glabrous shrub; branches slightly angular when young. Phyllodia linear or linear-cuneate, very obtuse, $\frac{3}{4}$ to rather more than 1 in. long, thick and very rigid, narrowed at the base and often bent in with an impressed gland below the middle, with a very prominent nerve, and the upper margin thick and nerve-like or forming a slightly intramarginal nerve, the smaller phyllodia straight, without any gland. Peduncles not 2 lines long, mostly solitary, bearing each a small globular head of 6 to 10 flowers, mostly 5-merous. Sepals very thin, spathulate, distinct. Petals narrow, smooth, distinct.

W. Australia, *Drummond.* Allied on the one hand to *A. flexifolia*, on the other to *A. nitidula*, differing from the former in the more rigid phyllodia and in the calyx, from the latter in the marginal nerve, small flower-heads, etc.

111. **A. spathulata,** *F. Muell. Herb.* A diffuse or bushy shrub of 3 or 4 ft.; branches usually crowded, nearly terete, glabrous or slightly pubescent. Phyllodia linear-cuneate or oblong-spathulate, very obtuse, 4 to 8 lines

long, thick and almost fleshy, faintly 1-nerved. Peduncles solitary or in pairs, bearing each a globular head of numerous flowers, only seen in young bud. Pod oblong-linear, straight, flat but thick and hard, very obtuse, with broad margins, 1 to 1½ in. long, 2 to 3 lines broad. Seeds oval-oblong, longitudinal; funicle short, thickened into a club-shaped oblique aril, with the edges more or less dilated over the seed.

N. Australia. Bay of Rest, N.W. coast, *A. Cunningham.*

W. Australia. Dirk Hartog's Island and Sharks Bay, *Milne*; Murchison river, *Oldfield* (phyllodia small, narrow; pod narrow); Murray river, *Oldfield* (phyllodia larger; pod broader). Some of the smaller specimens have some resemblance to *A. leptospermoides*, but the venation (often only visible under a lens at the base of the phyllodium) is different.

E. ANGUSTIFOLIÆ.—Shrubs or trees, not spinescent. Phyllodia oblong-lanceolate or linear, occasionally falcate, with 1 central nerve or rarely 2-nerved, mostly above 1 in. long. Stipules minute or none, or spinescent in *A. sentis* and *A. dentifera.* Peduncles 1-headed. Some species very resinous.

A few of this section have often, and *A. verniciflua* almost constantly 2 nerves to the phyllodia, thus connecting the *Uninerves* with the *Plurinerves,* to which however I have transferred most of the 2-nerved species I had formerly included in the *Uninerves.*

112. **A. microcarpa,** *F. Muell. Fragm.* i. 6, *and Pl. Vict.* ii. 17. A shrub of 2 to 5 ft., glabrous or the young shoots minutely pubescent with silky or golden hairs. Phyllodia oblong-linear or linear-lanceolate, oblique or falcate, obtuse or with a small recurved point, mostly 1 to 1½ rarely 2 in. long, coriaceous, rather thick, quite smooth, besides a scarcely prominent central nerve. Peduncles mostly in pairs, rarely above ¼ in. long and often much shorter, bearing each a globular head of rather numerous flowers, mostly 5-merous. Sepals free, narrow-linear, spathulate, ciliate. Petals smooth, distinct. Pod linear, curved or twisted, acuminate, often 2 or 3 in. long, but not above 1½ lines broad at the seeds and much contracted between them; valves rather coriaceous. Seeds longitudinal; funicle thickened into a small turbinate oblique aril.

N. S. Wales. Plains of the Darling, *Victorian Expedition.*

Victoria. Salt-bush country on the Murray, Avoca, and Wimmera rivers, *F. Mueller.*

S. Australia. Near Port Lincoln, *Wilhelmi.*

Some specimens from the Melbourne Botanic Garden have much smaller phyllodia, under 1 in. long, small flower-heads, and the pods scarcely above 1 line broad, thus approaching *A. acinacea* in aspect.

113. **A. montana,** *Benth. in Hook. Lond. Journ.* i. 360. A resinous viscid shrub of 4 to 6 ft.; branches slightly angular and pubescent. Phyllodia oblong, oblong-lanceolate or broadly linear, very obtuse, narrowed at the base, coriaceous, more or less distinctly 2-nerved, in the N. S. Wales specimens 1 to 1½ in. long, 2 to 3 lines broad, in the Victorian ones often much smaller, narrower, approaching towards those of *A. lineata.* Peduncles usually 2 to 3 lines long, solitary or in pairs, bearing each a small globular head of numerous flowers, mostly 5-merous. Calyx thin, lobed and ciliate, sometimes separating into distinct sepals. Petals smooth, distinct. Pod flat, densely tomentose, 1 to 2 in. long and about 2 lines broad, not contracted between the seeds. Seeds obovate-oblong, longitudinal; funicle with the 2 or 3 last folds thickened into an oblique almost hood-shaped aril, at least half

as long as the seed.—F. Muell. Pl. Vict. ii. 22; *A. clavata*, Schlecht. Linnæa, xx. 662.

N. S. Wales. High lands near Liverpool Plains, *Fraser.*

Victoria. Low stony and scrubby ridges and barren plains, Mount Korong, Avoca, Murray, and Wimmera rivers, *F. Mueller.*

S. Australia. East declivity of the scrub on the Murray, *Behr;* Lake Alexandrina and St. Vincent's Gulf, *F. Mueller.*

114. **A. verniciflua,** *A. Cunn. in Field, N. S. Wales*, 344. A tall resinous viscid shrub, branches slightly angular, glabrous. Phyllodia from oblong to linear-lanceolate, narrowed at each end and mostly acute, usually falcate, 2 to 4 in. long, with 2 or very rarely only 1 prominent nerve. Peduncles short, in pairs or clusters, bearing each a globular head of numerous mostly 5-merous flowers. Calyx turbinate, shortly toothed or lobed, about half as long as the corolla. Petals smooth, united. Pod linear, usually straight, flat, 2 to 3 lines broad, glabrous or viscid, pubescent. Seeds rather small, longitudinal; funicle short, the last folds forming a very small aril under the seed.—Bot. Mag. t. 3266; Hook. f. Fl. Tasm. i. 108; F. Muell. Pl. Vict. ii. 22; *A. graveolens*, A. Cunn. in G. Don, Gen. Syst. ii. 404; Bot. Mag. t. 3279; Lodd. Bot. Cab. t. 1460; *A. virgata*, Lodd. Bot. Cab. t. 1246.

N. S. Wales. Rocky hills of the interior, *A. Cunningham*, *Fraser*, *Huegel*, and others; head of the Gwydir river, *Leichhardt.*

Victoria. Widely distributed over the colony in mountain and forest regions, rocky hills, etc., *F. Mueller.*

Tasmania. Derwent river, *R. Brown;* common in many parts of the island, especially about Hobarton, also St. Patrick's River, Launceston, and near Yorktown, *J. D. Hooker.*

S. Australia. Upper valleys of the Torrens and Onkaparinga rivers, *F. Mueller.*

The species is nearly allied to *A. leprosa*, differing chiefly in the broader phyllodia almost always 2-nerved.

Var. *latifolia.* Phyllodia shorter and broader.—*A. exudans*, Lindl. in Mitch. Three Exped. ii. 214; Dictr. Fl. Univers. N. Ser. t. 83.—Plains of the Glenelg, *Mitchell.*

115. **A. leprosa,** *Sieb. in DC. Prod.* ii. 450. A tall shrub or small tree, with pendulous branchlets, more or less glutinous, otherwise glabrous or the young shoots minutely pubescent. Phyllodia narrow, linear-lanceolate, acute or obtuse with a small callous point, narrowed at the base, 1½ to 3 in. long, 1-nerved, with anastomosing veins, those of the barren shoots broader, often ½ in. long in the middle, and thinner with fine veins oblique on the midrib and connected in an intramarginal almost continuous vein. Peduncles mostly in pairs or clusters, hoary-pubescent, rarely above ¼ in. long, bearing each a globular head of numerous flowers, mostly 5-merous. Calyx half as long as the corolla, with short obtuse ciliate lobes. Petals united to the middle, with rather thick smooth tips. Pod falcate or rarely straight, flat, 2 to 2½ lines broad. Seeds oval-oblong, longitudinal; funicle with the last fold thickened into an irregularly turbinate or cup-shaped aril under the seed.—Bot. Reg. t. 1441 (rather doubtful); F. Muell. Pl. Vict. ii. 23; *A. reclinata*, F. Muell. First Gen. Rep. 12.

N. S. Wales. Port Jackson, *Sieber, n.* 455, *M'Arthur.*

Victoria. Dandenong Ranges, *F. Mueller.*

Var. *tenuifolia.* Branches erect. Phyllodia very narrow, linear-falcate, with recurved points.—Between the Goulburn and Broken rivers, Victoria, *F. Mueller.*

116. **A. stricta,** *Willd. Spec. Pl.* iv. 1052. A shrub of 2 or 3 ft. with

creeping roots in Tasmania, attaining 5 or 6 ft. further north, glabrous and often slightly viscous; branchlets erect, angular. Phyllodia linear, obtuse, rarely with a short oblique point, 2 to 4 or even 5 in. long, from 2 to 4 or 5 lines broad, coriaceous, 1-nerved, with numerous fine anastomosing pinnate veins. Peduncles in pairs or clusters, rarely 2 lines long, bearing each a globular head of about 20 to 30 small flowers, mostly 5-merous. Calyx turbinate, half as long as the corolla, shortly and obtusely lobed. Petals smooth, united to the middle. Pod elongated, flat, obtuse or acuminate, 1½ to 2½ lines broad, not contracted between the seeds. Seeds oval-oblong, longitudinal; funicle with the last fold thickened into an irregularly turbinate or cup-shaped aril under the seed.—DC. Prod. ii. 450; Reichb. Ic. et Descr. Pl. t. 90 (the venation not represented); Lodd. Bot. Cab. t. 99 (a doubtful narrow-leaved form); *Mimosa stricta*, Andr. Bot. Rep. t. 53; Bot. Mag. t. 1121; *Acacia emarginata*, Wendl. Comm. Acac. 27; DC. Prod. ii. 450.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 456, *Fl. Mixt. n.* 594, and others; Newcastle, *Leichhardt;* New England, *C. Stuart;* and southward to Gabo Island, *Maplestone.*

Victoria. Widely distributed over the southern and eastern parts of the colony, from the sandy or rocky coasts to stony mountains, wet valleys, or heath or forest ground, *F. Mueller.*

Tasmania. Common throughout the island in dry soil, *J. D. Hooker.*

117. **A. dodonæifolia,** *Willd. Enum. Suppl.* 68. A tall shrub, glabrous but very resinous, the branches soon terete. Phyllodia oblong-linear or lanceolate, obtuse or with a small recurved point, mostly 2 to 4 in. long and 2 to 4 lines broad, much narrowed towards the base, 1-nerved, with the lateral anastomosing veins much fewer and more prominent than in *A. stricta*, 1 or 2 glands on the upper margin sometimes very prominent but often wanting. Peduncles solitary or in pairs, often above ½ in. long, bearing a globular head of numerous flowers, usually 5-merous. Calyx more than half as long as the corolla, with short thick lobes sometimes separating into distinct sepals. Petals smooth, rather thickened at the tips, usually united to the middle. Pod elongated, nearly flat, straight or falcate, obtuse, when perfect about 2½ lines broad. Seeds oblong, longitudinal, the last 2 or 3 folds of the funicle much dilated into an irregularly cup-shaped aril.—*Mimosa dodonæifolia*, Pers. Syn. Pl. ii. 261; *A. viscosa*, Schrad. in Wendl. Diss. Acac. 30, t. 7; *A. dodonæifolia*, DC. Prod. ii. 450; Reichb. Ic. et Descr. Pl. t. 91; Colla, Hort. Ripul. t. 27; *A. visciflua*, F. Muell. Pl. Vict. ii. 24.

S. Australia. Kangaroo Island, *Baudin's Expedition;* Memory Cove, *R. Brown;* Port Lincoln, *Wilhelmi.* The species has long been cultivated on the Continent, originally raised from seeds collected in Baudin's Expedition, but *A. stricta* now frequently represents it in botanic gardens.

118. **A. Gnidium,** *Benth.* A small tree, glabrous with the young shoots glutinous; branches erect, virgate, soon becoming terete. Phyllodia numerous, erect, narrow-linear, obtuse with a small callous hooked point, 1 to 2 in. long and not above 1 line broad, rigid with a scarcely prominent midrib, the lateral veins obscure, anastomosing, and sometimes almost parallel. Peduncles slender, nearly ½ in. long, bearing each a globular head of 15 to 20 flowers, mostly 5-merous, but often also 4-merous. Calyx shortly and broadly lobed, half as long as the corolla. Petals smooth. Pod unknown.

Queensland. Under sandstone hills near Mount Pluto, *Mitchell*. On a hasty survey, I had formerly put this aside as a variety of *A. viscidula*, from which however on examination I find it to differ essentially in the venation of the phyllodia as well as in the flowers. The nearest affinity appears to be with *A. dodonæifolia*, from which our specimens chiefly differ in the very narrow phyllodia.

119. **A. ramosissima,** *Benth. in Hook. Lond. Journ.* i. 356 (*partly*). Apparently shrubby, with slender, pubescent, slightly angular branches. Phyllodia numerous, narrow-linear, obtuse with a minute hooked point, 1 to $1\frac{1}{2}$ in. long, about 1 line broad, narrowed at the base, rather thick, obscurely 1-nerved. Stipules minute but often persistent. Flowers not seen. Fruiting peduncles about $\frac{1}{2}$ in. long, with the scars of a globular head. Pod linear, straight, flat but thickly coriaceous, scarcely contracted but transversely depressed between the seeds, without thickened margins, 1 to $1\frac{1}{2}$ in. long, 2 lines broad. Seeds nearly orbicular; funicle thickened from near the base into a scarcely fleshy linear aril, and scarcely folded below it.

W. Australia, *Drummond, 3rd (or 4th?) Coll. n.* 79. Under the name of *A. ramosissima*, I had confounded several species, closely resembling each other in foliage, but which prove to have very different flowers and fruits. The one for which I now retain the name differs from all the thick narrow 1-nerved western ones in the pod and in the pubescent branchlets, but our specimens are very indifferent.

120. **A. sentis,** *F. Muell. in Journ. Linn. Soc.* iii. 128, *and Pl. Vict.* ii. 18. A divaricately-branched rigid shrub or small tree, branchlets nearly terete, glabrous or pubescent when young. Phyllodia lanceolate-oblong or linear, mostly oblique falcate or curved, 1-nerved and more or less penniveined, in some specimens $\frac{3}{4}$ in. long and 2 or 3 lines broad, in others more than 2 in. long and about 1 line broad, usually glabrous, the marginal gland near the base or none. Stipules either subulate-spinescent or very small or none. Peduncles rather slender, solitary or in pairs, axillary or by the abortion of the phyllodia in terminal racemes, bearing each a small globular head of 20 to 30 flowers, mostly 5-merous. Sepals linear-spathulate, free. Petals smooth. Pod thin, flat, $\frac{1}{2}$ to $\frac{3}{4}$ in. broad. Seeds broadly ovate, longitudinal, along the centre of the pod; funicle transverse, gradually thickened from the base upwards, straight or shortly folded under the seed.—*A. Victoriæ*, Benth. in Mitch. Trop. Austr. 333.

N. Australia. Victoria river and Plains of Promise, Gulf of Carpentaria, *F. Mueller*.

Queensland. Bargoo river, *Mitchell*.

N. S. Wales. From the Darling river to the Barrier range, *Victorian and other Expeditions*.

Victoria. Low sandhills and arid salt-bush plains towards the junction of the Murray and Darling, *F. Mueller*.

S. Australia. Base of Flinders range, towards Spencer's Gulf and in the interior, *F. Mueller*.

121. **A. dentifera,** *Benth. in Maund, Botanist*, iv. *t.* 179. A tall glabrous shrub, branchlets striate or slightly angular. Phyllodia narrow-linear, acute or obtuse with a small recurved point, 3 to 8 in. long, and 1 to 2 lines broad, with a prominent midrib and obscurely veined. Stipules small and tooth-like or none. Peduncles slender, mostly above $\frac{1}{2}$ in. long, solitary or in pairs, the upper ones often forming a raceme by the abortion of the phyllodia, each bearing a globular or ovoid head of densely packed flowers, mostly 5-merous. Sepals very narrow, free. Petals smooth, united above the

middle. Pod straight or curved, flat, 2 to 3 in. long, about 3 lines broad, not contracted between the seeds. Seeds oblong, longitudinal; funicle with the last 2 or 3 folds dilated into an orange-coloured aril under the seed.—Meissn. in Pl. Preiss. 1. 17.

W. Australia. Swan River to King George's Sound, *Drummond*, *1st Coll.*, *2nd Coll. n.* 298, *5th Coll. n.* 7; Canning river, Darling range and Murray river, *Preiss, n.* 932, 944, 946; Tweed river, *Oldfield;* Stirling ranges, *Maxwell.*

A. longifolia, Paxt. Mag. xii. 269, with a fig. (*A. dentifera*, Bot. Mag. t. 4032) is a garden variety, with more falcate phyllodia, and the flowering branches when young forming long leafless racemes, often exceeding the leaves and producing numerous flower-heads from the base.

122. **A. fasciculifera,** *F. Muell. Herb.* A tree, glabrous in all its parts; branchlets slightly angular. Phyllodia lanceolate-falcate, acuminate, with a callous point, narrowed at the base, mostly 4 to 6 in. long, coriaceous, with a prominent midrib and nerve-like margins, the pinnate veins scarcely prominent. Peduncles filiform, ½ to 1 in. long or even more, clustered in the axils, bearing each a globular head of 20 to 30 or more flowers, mostly 5-merous. Sepals narrow, linear-spathulate, free. Petals smooth, soon separating. Pod not seen.

Queensland. Rockhampton and Moreton Bay, *Dallachy.* The phyllodia are nearly those of *A. falcata*, but rather more coriaceous, the inflorescence is very different, showing an affinity to *A. harpophylla* and *A. complanata.*

F. RACEMOSÆ.—Shrubs or trees, not spinescent. Phyllodia not pungent except in a very few broad-leaved species, with 1 central nerve or very rarely a second shorter or fainter one, the veinlets when visible diverging from the midrib or reticulate. Flower-heads globular, all or nearly all in axillary racemes, very rarely a few solitary in the lower axils of a young branch. Flowers usually small and 5-merous in all except *A. myrtifolia.* Petals not striate.

This subseries is distinguished from the other *Uninerves* by the inflorescence. The phyllodia are, in the species commencing the subseries, long and falcate as in the falcate *Juliforæ*, and in the larger *Plurinerves*, in the latter species of the subseries they generally correspond in shape to those of the *Brevifoliæ.*

123. **A. falcata,** *Willd. Spec. Pl.* iv. 1053. A tall shrub or tree, glabrous, with angular branchlets. Phyllodia lanceolate-falcate, acuminate, much narrowed towards the base, 3 to 6 in. long or even more, 1-nerved, obliquely penniveined, the margins slightly thickened without any gland or with an obscure one at the base. Racemes much shorter than the phyllodia, usually with 10 to 20 small globular heads of about 20 small flowers, mostly 5-merous; peduncles short and slender. Sepals free, narrow-spathulate, ciliate. Petals smooth, soon separating. Pod flat, with slightly thickened margins, 2 to 3 in. long, about 3 lines broad. Seeds ovate, longitudinal, close to the margin; funicle slightly dilated and coloured from the base, very long, extending round the seed and bent back on the same side, encircling it in a double fold and thickened at the end into a short fleshy aril.—*Mimosa obliqua*, Wendl. Bot. Beob. 57; *A. falcata*, DC. Prod. ii. 451; Wendl. Comm. Acac. 20. t. 14; Lodd. Bot. Cab. t. 1115; *A. plagiophylla*, Spreng. Syst. iii. 135.

Queensland. Brisbane river, Moreton Bay, *A. Cunningham*, *Leichhardt*, and others.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 450, and others.

124. **A. macradenia,** *Benth. in Mitch. Trop. Austr.* 360. A shrub of 10 to 12 ft., glabrous, with angular branchlets. Phyllodia lanceolate-falcate, rather acute, much narrowed towards the base, coriaceous, 1-nerved, with thickened margins and often a gland at the base, like those of *A. falcata*, but usually longer, attaining from 6 in. to 1 ft., and the fine veins more numerous, prominent, and transverse. Racemes short with several small globular heads of flowers mostly 5-merous. Calyx turbinate, more than half as long as the corolla, shortly and broadly toothed, ciliate. Petals smooth, pubescent. Pod long, flat, 5 to 6 lines broad. Seeds orbicular; funicle slightly thickened from the base, but not enlarged under the seed, not folded, about half as long as the seed.

Queensland. Beds of rivers near Mount Pluto, *Mitchell* (in flower); Rockhampton, *Thozet* (in fruit).

125. **A. penninervis,** *Sieb. in DC. Prod.* ii. 452. A tree attaining sometimes 40 ft. but usually smaller, glabrous in all its parts in the common variety, with angular branchlets. Phyllodia from oblong to lanceolate-falcate, more or less acuminate, usually 3 to 4 in. long, but sometimes twice that length, much narrowed towards the base, 1-nerved and more or less prominently and finely penniveined, the margins usually nerve-like, and often but not always a short secondary nerve terminating in a marginal gland much below the middle. Racemes rather short but loose, with several small globular heads of about 20 flowers, mostly 5-merous. Calyx truncate or shortly toothed, not half so long as the corolla. Petals smooth. Pod flat, straight or curved, with slightly thickened margins, often 4 or 5 in. long, nearly ½ in. broad. Seeds ovate, longitudinal; funicle long, dilated and coloured nearly from the base, extending round the seed and bent back on the same side, so as to encircle it in a double fold.—Bot. Mag. t. 2754; F. Muell. Pl. Vict. ii. 14; *A. impressa*, Lindl. Bot. Reg. t. 1115; Lodd. Bot. Cab. t. 1319.

Queensland. Brisbane river, Moreton Bay, *Fraser, F. Mueller*; Sandstone ridges near Mount Pluto, *Mitchell*.

N. S. Wales. Blue Mountains, *Sieber*, *n.* 458, and others; and inland to the Macquarrie, *A. Cunningham*, *Fraser*; northward to Hastings river, *Beckler*; and southward to Twofold Bay, *F. Mueller*.

Victoria. Granitic ranges and mountains on the Broken, Ovens, and Snowy rivers, *F. Mueller*.

Tasmania. Brown's Road, Mount Wellington, *Oldfield*.

Var. *falciformis*. Phyllodia usually longer and more falcate, young shoots and inflorescence minutely hoary or golden-pubescent. Pod nearly ¾ in. broad.—*A. falciformis*, DC. Prod. ii. 452; *A. astringens*, A. Cunn. in G. Don, Gen. Syst. ii. 405.—From Twofold Bay, *F. Mueller*, to Moreton Bay, *Leichhardt*, and New England, *C. Stuart*; and from the Blue Mountains, *Sieber*, *n.* 616, and others, to the Lachlan river, *A. Cunningham*, *Fraser*. Called *Blackwood* by the western colonists, and the bark used for tanning.

126. **A. retinodes,** *Schlecht. in Linnæa*, xx. 664. A moderate-sized tree usually glabrous, the branchlets at first very angular. Phyllodia linear-lanceolate, more or less falcate, with a small recurved point or obtuse, much narrowed towards the base, mostly 3 to 5 in. long, 1-nerved, finely penniveined, the marginal gland above the base rarely wanting, those of barren shoots sometimes short and broad. Racemes much shorter than the phyllodia, almost always branched, with several, often 10 to 20, small globular heads of 12 to 20 flowers, mostly 5-merous. Calyx thin, not half so long as

the corolla, with very short broad ciliate lobes. Petals smooth, united to the middle, but readily separating. Pod shortly stipitate, usually straight, nearly flat, 3 to 8 in. long, 3 to 4 lines broad. Seeds oblong, longitudinal, the funicle dilated and coloured nearly from the base, extending round the seed and bent back on the same side, encircling it in a double fold.—F. Muell. Pl. Vict. ii. 13.

Victoria. Port Phillip, *R. Brown;* grassy ridges and open valleys throughout the greater part of the colony, *F. Mueller.*

S. Australia. Memory Cove, *R. Brown;* very frequent in rich soils near water in the valleys, *Behr;* Kangaroo island, *Waterhouse:* and northward to Flinders range, *F. Mueller.*

The species differs from *A. penninervis* chiefly in the narrow phyllodia, from *A. neriifolia* in the fewer smaller flowers, the sepals more united, and especially in the narrower pod and in the funicle, and usually from both species in the more compact branched racemes; but some flowering specimens are uncertain in this respect.

127. **A. neriifolia,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 357. A tall and handsome shrub or small tree; branchlets slender, slightly angular, glaucous or mealy-tomentose when young, but soon glabrous. Phyllodia linear-lanceolate, more or less falcate, with a small callous point often recurved, much narrowed towards the base, mostly 3 to 5 in. long and 2 to 4 lines broad, 1-nerved, obscurely penniveined, with 1 or sometimes 2 or 3 distant marginal glands rarely all wanting. Racemes always simple, rather slender, much shorter than the phyllodia, the rhachis and peduncles usually tomentose. Flower-heads globular, small, with 30 to 40 flowers, mostly 5-merous. Sepals spathulate, more than half as long as the corolla, ciliate, free or slightly adnate below the middle. Petals smooth, usually free. Pod flat, straight or nearly so, several inches long, about 4 lines broad, often slightly contracted between the seeds. Seeds oval-oblong, longitudinal; funicle with the last fold appressed and thickened from the middle upwards into a club-shaped aril, the lower folds short and filiform.

Queensland. Open forests on the Balonne river, *Mitchell.*

N. S. Wales. Detached whinstone hills, Liverpool plains, *A. Cunningham, Fraser;* very common about Tenterfield, New England, *C. Stuart;* Head of the Gwydir river, *Leichhardt.*

S. Australia. Some specimens in flower in the Hookerian herbarium appear to belong to this species rather than to *A. retinodes,* and *A. iteaphylla,* F. Muell., Benth. in Linnæa, xxvi. 617, in fruit only, from Arkaba, has the pod and seeds of *A. neriifolia;* but neither can be identified with certainty until the flowers and fruit shall have been properly matched.

128. **A. microbotrya,** *Benth. in Hook. Lond. Journ.* i. 353. A tall shrub, quite glabrous except the inflorescence, branches slightly angular, soon becoming terete. Phyllodia lanceolate-falcate, acuminate, acute, obtuse or with a short incurved point, much narrowed towards the base, mostly 3 to 5 in. long, but very variable in size, and when small sometimes scarcely falcate, 1-nerved, penniveined, the nerve-like margin fine or scarcely prominent, with 1 or 2 small marginal glands often wanting. Racemes ½ to 1½ in. long, with from 3 or 4 to above 20 small globular heads of numerous small flowers, mostly 5-merous, the rhachis and peduncles when young minutely silky or mealy-tomentose. Calyx very thin, lobes very short or slightly spathulate, often readily separating into distinct sepals. Petals glabrous or minutely pubescent, the midribs prominent. Pod doubtful.—Meissn. in Pl. Preiss. i. 15, *A. myriobotrya* and *A. leiophylla,* var. *microcephala,* Meissn. l. c.; *A.*

subfalcata and *A. daphnifolia*, Meissn. in Bot. Zeit. 1855, 11; *A. rostellifera*, Seem. Eingef. Acac. t. 2, not of Benth., and therefore probably also *A. pterigoidea*, Seem. in Verhandl. K. K. Gartenb. 1846, 11, quoted by Seem. l. c. 33.

W. Australia. Swan River, *Drummond, 1st Coll. and n.* 286, *Preiss, n.* 923; between Moore and Murchison rivers, *Drummond, 6th Coll. n.* 1 and 2; Murchison river, *Oldfield*; and probably Kalgan river, *Oldfield*. This species appears to represent *A. penninervis* in the west, from which it differs in the usually narrower phyllodia, the flowers more numerous although in very small heads, and probably in the narrow pod and more filiform funicles. It is also very near the following *A. saligna*, but the flower-heads are not half the size, the peduncles much more slender, the calyx longer, etc., and the pod probably different. Of the numerous specimens I have seen there are only two in fruit, both apparently agreeing with the flowering ones in branches foliage and inflorescence, in one the pods, not yet ripe, are straight, flat, about 2 in. long and 1½ lines wide, with longitudinal seeds and a filiform funicle forming several long folds, in the other the pods are old, 5 to 6 in. long, 6 to 8 lines broad, coriaceous, convex over the seeds, often narrowed between them; the seeds all shed. Flowering specimens of some forms of this species, of *A. neriifolia* and of *A. retinodes*, are often very difficult to distinguish.

129. **A. saligna,** *Wendl. Comm. Acac.* 26. A tall shrub or tree, quite glabrous, with angular branchlets. Phyllodia falcate-lanceolate, rather obtuse, much narrowed towards the base, many inches long, rather thick, 1-nerved, obscurely or rarely more distinctly penniveined, with nerve-like margins, the marginal gland distinct from the base, often wanting. Racemes short, with few globular heads, larger than in the preceding six species, the rhachis rather stout and flexuose. Flowers about 25 to 30 in the head, often slightly pubescent, mostly 5-merous. Calyx not half so long as the corolla, truncate or sinuate-toothed. Petals smooth. Pod flat, often 5 or 6 in. long, usually straight, scarcely 3 lines broad, not at all or slightly contracted between the seeds. Seeds oval-oblong, longitudinal; funicle short, gradually thickened almost from the base into a club-shaped fleshy aril.—DC. Prod. ii. 450; *Mimosa saligna*, Labill. Pl. Nov. Holl. ii. 86. t. 235; *A. leiophylla*, Benth. in Hook. Lond. Journ. i. 351.

W. Australia. King George's Sound, rare, *R. Brown*; to the eastward, *Baxter*; towards the Great Bight, *Maxwell*. I have not seen authentic specimens of Labillardière's plant, but have every reason to believe that it was this species, gathered on the same coast, and not a Tasmanian plant that he figured and described. The species is nearly allied on the one hand to *A. cyanophylla*, on the other to *A. microbotrya*.

A. Blomei, Ohlend. in Neue Allgem. Gartenzeit. 1845, 369, described from a specimen in leaf only, is referred by Seemann, Eingef. Acac. 30, to *A. leiophylla*, Benth.

130. **A. cyanophylla,** *Lindl. bot. Reg.* 1835, *Misc.* 49. A tall handsome shrub, glabrous and often more or less glaucous, emitting, at least in cultivation, suckers from the roots, branches scarcely angular. Phyllodia from linear-oblong to lanceolate-falcate, the lower ones sometimes above a foot long, the upper ones ½ ft. or less and narrower, much narrowed towards the base, 1-nerved, penniveined, with nerve-like margins, the marginal gland usually obscure or none. Racemes short, with 3 to 5 heads of numerous (above 40) flowers, mostly 5-merous, the common rhachis rather stout and flexuose, the peduncles 3 to 6 lines long. Sepals cohering to the middle in a turbinate lobed calyx. Petals smooth, but with prominent midribs. Pod several inches long, flat, 2 to 2½ or rarely 3 lines broad, contracted between the seeds. Seeds oblong, longitudinal; funicle as long as the seed, the last

fold slightly thickened into a somewhat clavate aril, with very short folds below it.—Meissn. in Pl. Preiss. i. 15.

W. Australia. Swan River, *Mangles*, *Huegel*, *Preiss*, *n.* 925, *Drummond*, 1*st Coll. and n.* 284, and others. Closely allied on the one hand to *A. saligna*, to which I had referred it in Hueg. Enum. 42, and on the other to *A. pycnantha.*

131. **A. pycnantha,** *Benth. in Hook. Lond. Journ.* i. 351. A small or middle-sized tree, quite glabrous; branches terete or nearly so. Phyllodia lanceolate-falcate, obtuse or rather acute, much narrowed towards the base, 3 to 6 in. long, the larger ones often 1 in. broad in the middle, coriaceous, 1-nerved, penniveined with nerve-like margins, the marginal gland rather large near the base. Racemes short, with a few dense globular heads of 50 to 100 flowers, mostly 5-merous, the rhachis and peduncles rather stout. Calyx shortly lobed, ciliate, usually about $\frac{2}{3}$ as long as the corolla. Petals smooth, glabrous, distinct or readily separating. Pod straight or slightly curved, several inches long, about 3 lines broad, flat and rather thin. Seeds oval-oblong, longitudinal; funicle not so long as the seed, thickened upwards, either not folded, or with 1 or 2 very short folds at the base.—Schlecht. Linnæa, xx. 664; F. Muell. Pl. Vict. ii. 15; Dietr. Fl. Univers. N. Ser. t. 86; *A. petiolaris*, Lehm. Novit. Hort. Hamb. in Linnæa, xxv. 306; *A. falcinella*, Meissn. in Bot. Zeit. 1855, 11.

Victoria. Frequent throughout the greater part of the colony in open forest country or scrubs, *F. Mueller.*

S. Australia. Common especially on undulating hills, exuding abundance of gum and furnishing bark for tanning, *Behr*, *F. Mueller.*

Var. (?) *angustifolia.* Branchlets angular, phyllodia narrower, flower-heads fewer and smaller.—Memory Cove, *R. Brown*; Spencer's Gulf, *F. Mueller*, referred here on the authority of F. Mueller, but from the inspection of the specimens it appears somewhat distinct. Pod unknown.

132. **A. notabilis,** *F. Muell. Fragm.* i. 6. A tall handsome shrub, glabrous and often glaucous, the branchlets terete or nearly so. Phyllodia from lanceolate-falcate to almost linear, narrowed at the base, usually oblique, 4 to 8 in. long, or the lower ones shorter and broader, thickly coriaceous, 1-nerved with thick nerve-like margins, obscurely veined, the marginal gland near the base not very conspicuous. Racemes short, with dense globular heads of above 50 flowers as in *A. pycnantha*, and the calyx as in that species $\frac{2}{3}$ as long as the corolla. Petals silky-pubescent, united to the middle. Pod straight, flat, glaucous, $1\frac{1}{2}$ to 3 in. long, 4 to 5 lines wide, somewhat coriaceous with nerve-like margins. Seeds transverse; funicle long and filiform, encircling the seed in a double fold, only very shortly thickened at the end into a small fleshy aril.

N. S. Wales. Towards the Barrier range, *Victorian Expedition.*

S. Australia. S. coast, *R. Brown*; Port Lincoln, *Wilhelmi*; Flinders range, *F. Mueller.*

133. **A. gladiiformis,** *A. Cunn.*; *Benth. in Hook. Lond. Journ.* i. 354. A tall shrub, quite glabrous; branchlets angular. Phyllodia linear-lanceolate or almost spathulate, curved, very obtuse or with a small hooked point, 3 to 6 in. long, much narrowed towards the base, thickly coriaceous, 1-nerved, smooth and shining, the margins thickened and usually 2 or more marginal glands. Racemes short, the rhachis rigid and flexuose, with several dense

globular heads of above 30 flowers, mostly 5-merous. Sepals narrow-linear, spathulate, with dark concave tips more than half the length of the corolla. Petals smooth. Pod elongated, flat but flexuose, about 3 lines broad, coriaceous. Seeds longitudinal; funicle long, slightly dilated, encircling the seed in a double fold, but not returning the third time as in *A. amœna.*

N. S. Wales. Blue Mountains and rocky hills to the westward, *A. and R. Cunningham.*

134. **A. obtusata,** *Sieb. in DC. Prod.* ii. 453. A tall shrub, quite glabrous; branchlets angular. Phyllodia oblong-linear or almost spathulate, usually straight, very obtuse, 1½ to 3 in. long, rigidly coriaceous, 1-nerved, with thickened nerve-like margins, the veinlets inconspicuous, with or without marginal glands. Racemes short, with few densely packed heads of above 30 flowers, mostly 5-merous. Sepals thick, spathulate, half as long as the corolla, at first united but readily separating when fully out. Pod unknown.

N. S. Wales. Blue Mountains, *Sieber, n.* 441; *A. Cunningham, Fraser.* Allied on the one hand to *A. amœna,* on the other to *A. gladiiformis,* but apparently distinct from both.

135. **A. rubida,** *A. Cunn. in Field, N. S. Wales,* 344. A tall shrub, quite glabrous, allied to *A. amœna,* and perhaps a variety; branchlets angular. Phyllodia lanceolate, often falcate, rather acute, much narrowed towards the base, mostly about 3 in. long, rather thick, 1-nerved, with nerve-like margins, the veinlets inconspicuous and never more than 1 marginal gland. Racemes shorter than the phyllodia, with several, often 10 to 12, rather small heads of 10 to 15 flowers, mostly 5-merous. Sepals half as long as the petals, usually coherent. Petals smooth. Pod unknown.—*A. amœna,* Sieb. Pl. Exs., not of Wendl.

N. S. Wales. Port Jackson to the Blue Mountains, *Sieber, n.* 452; head of the Gwydir, *Leichhardt;* Clarence river, *Beckler?* (specimens not in flower).

136. **A. amœna,** *Wendl. Comm. Acac.* 10, *t.* 4. A tall shrub, quite glabrous, young branches pubescent. Phyllodia obliquely lanceolate or oblanceolate, straight or falcate, obtuse or with a small recurved point, much narrowed towards the base, not very thick, 1-nerved with nerve-like margins and more or less distinctly veined, with 1, 2, or 3 often prominent distant marginal glands, 1½ to 2½ in. long on the flowering shoots, longer on the barren branches. Racemes usually shorter than the phyllodia, with several small globular heads of about 8 to 12 flowers, mostly 5-merous. Sepals short, broad, usually separating when the flower is fully out. Petals 5, distinct, smooth with prominent midribs. Pod flat, straight or curved, with nerve-like margins, several in. long, 3 to 4 lines broad, not contracted between the seeds. Seeds ovate, longitudinal; funicle dilated and reticulate from near the base, very long, extending round the seed, returning on the same side and bent back a third time, encircling the seed in a triple fold, and thickened at the end into a fleshy aril, two-thirds the length of the seed. —DC. Prod. ii. 452; Fl. Muell. Pl. Vict. ii. 17.

N. S. Wales. Blue Mountains, *R. Brown;* Illawarra and banks of the Lachlan and Macquarrie, *A. Cunningham, Fraser.*

Victoria. Rocky mountains along Macalister river and its tributaries, granitic banks of Snowy River and adjoining mountains, at an elevation of 2000 to 4000 ft., *F. Mueller.*

The funicle completely encircling the seed a third time does not occur in any other species which I have been able to observe, and is in all the seeds I have examined of *A. amœna*; it remains, however, to be ascertained whether it is really so constant a character as it appears to be.

137. **A. hakeoides,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 354. A tall shrub, glabrous or nearly so, the branches scarcely angular. Phyllodia linear-spathulate or narrow oblong-lanceolate, obtuse, much narrowed at the base, 2 to 5 in. long, rather thick, 1-nerved, obscurely marked with longitudinal reticulations, the margins scarcely prominent, usually with a gland towards the middle. Racemes shorter than the phyllodia, with a few globular heads of about 20 flowers, mostly 5-merous. Sepals spathulate, cohering at first but readily separating, half as long as the corolla. Petals smooth, glabrous or minutely pubescent. Pod flat, usually curved, 2 to 3 lines broad, much contracted between the seeds. Seeds oblong, longitudinal; funicle half as long as the seed, the last fold thickened into a clavate, keeled, fleshy aril almost from the base, with 2 or 3 very minute folds below it.—F. Muell. Pl. Vict. ii. 16.

N. S. Wales. Lachlan and Dumaresq rivers, *A. Cunningham.*

Victoria. Murray desert, *Prince Paul William of Wirtemberg. Dallachy.*

Allied in flowers to *A. obtusata* and *A. crassiuscula,* and in foliage to *A. salicina,* but differing in several points from each of these species.

138. **A. salicina,** *Lindl. in Mitch. Three Exped.* ii. 20. A tall shrub or small tree, with branches often pendulous, the foliage of a pale or glaucous hue and quite glabrous; branchlets scarcely angular. Phyllodia mostly straight or nearly so, oblong-linear or lanceolate, obtuse or slightly acuminate, much narrowed at the base, 2 to 5 in. long and not above ½ in. broad, but in some varieties occasionally broader or falcate, always rather thick, the midrib scarcely prominent, the lateral veins obscurely reticulate, the margins scarcely thickened, the gland very rare. Racemes short, irregularly bearing 2 or 3 dense globular heads or reduced to a single head. Flowers 20 or more, mostly 5-merous. Calyx short, truncate, entire or minutely toothed. Petals quite smooth. Pod straight, 1 to 3 in. long, in the ordinary form not above 3 lines broad; valves somewhat convex, hard and thick. Seeds orbicular, longitudinal; funicle thickened and usually scarlet almost from the base, forming several folds under the seed.—F. Muell. Pl. Vict. ii. 12; Dietr. Fl. Univers. N. Ser. t. 83; *A. ligulata*, A. Cunn.; Benth. in Hook. Lond. Journ. i. 362.

N. Australia. Banks of creeks, Arnhem's Land, *F. Mueller;* Curtis Island, *Henne.*

Queensland. Open forest lands on the Balonne, *Mitchell;* Suttor river, *F. Mueller.*

N. S. Wales. On the Lachlan and thence to the Barrier Range, *A. Cunningham, Mitchell, Victorian Expedition,* etc.; Liverpool plains, *Leichhardt.*

Victoria. In the N.W. desert, *F. Mueller.*

S. Australia. From the Murray to St. Vincent's and Spencer's Gulfs, and northward to the desert interior, *F. Mueller*; Memory Cove, *R. Brown.*

W. Australia. Dirk Hartog's Island, *A. Cunningham;* Sharks Bay, *Milne;* Murchison river, *Oldfield;* also a specimen from *Baudin's Expedition,* in Herb. R. Brown.

Var. *varians.* Branches more spreading. Phyllodia more veined, the lower ones often much broader and almost penniveined, as in *A. penninervis,* but without the thickened margin or gland. Pod about 4 lines broad, the seeds often oblique and the folds of the funicle extending up one side.—*A. varians,* Benth. in Mitch. Trop. Austr. 132. To this belong all the tropical and subtropical specimens. It is generally a very distinct form, and it is with some hesitation that I have followed F. Mueller in considering it a variety only of *A. salicina.*

139. **A. rostellifera,** *Benth. in Hook. Lond. Journ.* i. 356. A tall shrub or small tree, nearly allied to *A. salicina*, with which it is united by F. Mueller, but the aspect is different, the nerve of the phyllodia is much more prominent, and the pod is unknown. Branchlets angular, flexuous, quite glabrous. Phyllodia linear-lanceolate, 2 to 5 in. long, 3 to 4 lines broad, straight or falcate with an oblique or recurved usually callous point, rather thick, 1-nerved, very obscurely veined. Flower-heads few, in short racemes, as in *A. salicina*, with numerous 5-merous flowers. Calyx short, truncate. Petals quite smooth, without the prominent midribs of *A. cyanophylla*, which the long-leaved specimens sometimes resemble.—*A. subbinervia*, Meissn. in Pl. Preiss. i. 16.

W. Australia. Swan River, *Drummond*, 1*st Coll. n.* 285, 2*nd Coll. n.* 103; Murchison river, *Oldfield;* Rottenest Island, *Preiss, n.* 924. The second nerve of the phyllodia, from whence Meissner derived his name, very seldom occurs, and was therefore in some measure exceptional in the specimen described by him. The species requires further investigation.

140. **A. pycnophylla,** *Benth.* A glabrous, erect shrub of several ft., the branches slightly angular. Phyllodia usually numerous, erect, linear, obtuse or with a small straight point, 1½ to 3 in. long, thick and nerveless besides the midrib, narrowed at the base, without marginal glands. Flower-heads generally 2 or 3, in short axillary racemes on short thick peduncles, globular, with 10 to 15 flowers, mostly 5-merous. Calyx half as long as the corolla, shortly and broadly lobed. Petals smooth, but angular in the bud. Pod linear, flat with thickened margins, not contracted between the seeds, 1 to 1½ lines broad; valves thinly coriaceous. Seeds longitudinal, the last 2 or 3 short folds of the funicle thickened into a small fleshy aril under the seed. —*A. crassiuscula*, Meissn. in Pl. Preiss. i. 16, not of Sieber.

W. Australia. King George's Sound and adjoining districts, *Drummond*, 3*rd Coll. n.* 98, *Preiss, n.* 929, *Oldfield.*

Var. *angustifolia.* Phyllodia narrower; peduncles rather longer; petals thinner. Pod the same.—Cape Paisly and Cape Legrand, *Maxwell.*

The foliage is nearly that of *A. ramosissima* and *A. Harveyi*, but the pod is very different. The lobed calyx as well as the pod readily distinguish it from the narrowest-leaved forms of *A. salicina.*

141. **A. Harveyi,** *Benth.* Quite glabrous, with erect slender branches, slightly angular when young. Phyllodia narrow-linear, obtuse or with a short hooked point, 2 to 3 in. long, 1 to 1½ lines broad, narrowed at the base, rather thick, the midrib scarcely prominent and the veinlets very obscure. Flower-heads small, globular, several in short slender racemes, the partial peduncles 1 to 2 lines long. Flowers small, 20 to 30 in the head, mostly 5-merous. Calyx thin, shortly lobed, more than half as long as the corolla. Petals smooth. Pod very flat, with scarcely thickened margins, not contracted between the seeds, 3 in. long or more, above ½ in. broad, coriaceous and transversely reticulate. Young seeds along the centre of the pod, with a long funicle folded and thickened under the seed, but not seen ripe.—*A. ramosissima*, Benth.; Meissn. in Pl. Preiss. i. 16, partly.

W. Australia. Between King George's Sound and Cape Riche, *Harvey* (in flower), *Drummond*, 4*th Coll. n.* 130 (in fruit). Allied in foliage to *A. pycnophylla* and *A. ramo-*

sissima, but very different in fruit. Of Preiss's specimens I have only seen n. 911, which appears to me to belong to the present species, but cannot be absolutely determined without the fruit.

142. **A. suaveolens,** *Willd. Spec. Pl.* iv. 1050. A shrub, attaining about 3 to 6 ft., quite glabrous, often glaucous, with acutely angled branchlets. Phyllodia linear or almost lanceolate, mostly 3 to 4 in. but sometimes 6 in. long, 2 to 4 lines broad, obtuse or mucronulate, narrowed towards the base, rather thick, 1-nerved with nerve-like margins, obscurely veined. Flower-heads small, in axillary racemes, at first enclosed in imbricate scaly bracts, which fall off very early. Rhachis and peduncles slender. Flowers 6 to 10 in the head, mostly 5-merous. Sepals thin, narrow linear-spathulate, quite distinct. Petals thin, quite smooth. Pod oblong, flat, coriaceous, glaucous, very obtuse, 1 to 1½ in. long, 6 to 8 lines broad. Seeds oblong, transverse; funicle filiform nearly till maturity, when it is contracted into short folds more or less thickened under the seed into a small fleshy aril.—*Mimosa suaveolens*, Sm. in Trans. Linn. Soc. i. 253; Labill. Pl. Nov. Holl. ii. 87, t. 236; *M. obliqua*, Lam. in Journ. Hist. Nat. i. 89, t. 5, according to Wendl. Comm. Acac. 33, but not of Pers.; *M. angustifolia*, Jacq. Hort. Schœnbr. iii. 74, t. 391; *A. suaveolens*, DC. Prod. ii. 453; Lodd. Bot. Cab. t. 730; Reichb. Ic. et Descr. Pl. t. 46; Hook. f. Fl. Tasm. i. 107; F. Muell. Pl. Vict. ii. 14; *A. angustifolia*, Wendl. Comm. Acac 34; DC. Prod. ii. 453.

Queensland. Moreton Bay, *Fitzalan.*

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 462, *and Fl. Mixt. n.* 595; northward to Hastings river, *Beckler;* southward to Twofold Bay, *F. Mueller.*

Victoria. Bushy sand ridges, barren scrubby plains, and rocky coast declivities in the southern and eastern parts of the colony, *F. Mueller.*

Tasmania. Dry soils, N. coast, and islands of Bass's Straits, also on the Derwent, *J. D. Hooker.*

143. **A. subcærulea,** *Lindl. Bot. Reg. t.* 1075. An erect or spreading shrub, quite glabrous and often very glaucous; branchlets acutely angular. Phyllodia oblong-linear, lanceolate or narrow-linear, obtuse or mucronate, 1½ to 3 in. long, 2 to 4 lines broad, straight, thick and coriaceous, 1-nerved and veinless, or, when broad, rather thinner, slightly falcate, and faintly penninerved, the nerve-like margin much less prominent than in *A. obtusata* and its allies, and sometimes altogether disappearing. Racemes often as long as the phyllodia, enclosed when young in very deciduous bracts or scales, the rhachis and peduncles slender. Flower-heads globular, with above 30 flowers, mostly 5-merous. Sepals very thin, narrow and distinct or sometimes broader and slightly cohering, about half as long as the corolla or shorter. Petals smooth, at length separating. Pod 1 to 1½ or rarely 2 in. long, ½ to near ¾ in. broad, very obtuse, flat, coriaceous and glaucous, as in *A. suaveolens*. Seeds oblong, transverse, the funicle thickened into a few short closely packed folds under the seed.—*A. hemiteles*, Benth. in Linnæa, xxvi. 619; *A. apiculata*, Meissn. in Pl. Preiss. i. 17.

W. Australia. Sandy and stony places, King George's Sound to Cape Riche, *Drummond, 4th Coll. n.* 10, *Preiss*, *n.* 919, *Oldfield*, and eastward towards the Great Bight, *Maxwell;* Point Possession, *Collie.*

Var. *parvifolia.* Phyllodia shorter, pod rather longer.—Near Cape Riche, *Harvey*; "Norabup," *Oldfield.*

144. **A. Lindleyi,** *Meissn. in Pl. Preiss.* i. 14. A glabrous, glaucous shrub, evidently allied to *A. subcærulea*, but somewhat uncertain until the fruit has been seen. Branches much stouter, very acutely 3-angled when young. Lower phyllodia 6 to 10 in. long, 1½ to 2 in. broad, lanceolate, much narrowed at the base, 1-nerved, with fine but prominent pinnate veins; upper ones smaller and narrower, more like those of *A. subcærulea.* Racemes short, probably enclosed when young in imbricate scales, but all fallen off in the specimens seen; heads few, globular, containing numerous 5-merous flowers. Sepals narrow.

W. Australia. In the interior, *Preiss, n.* 947, *Drummond* (*4th Coll.*), *n.* 25. The specimens I have seen are not satisfactory.

145. **A. leptopetala,** *Benth. in Linnæa*, xxvi. 619. A bushy shrub, attaining 8 or 10 ft., glabrous and often somewhat glaucous; branches slightly angular. Phyllodia oblong linear or lanceolate, obtuse, narrowed at the base, 1 to 2 in. long, coriaceous, with a scarcely prominent nerve and very obscurely reticulate veins. Peduncles slender, in short axillary racemes or rarely solitary, bearing each a small globular head of numerous (above 30) flowers, mostly 5-merous. Sepals very narrow, distinct, spathulate at the end. Petals rather narrow, free, smooth. Pod flat, straight, 2 to 3 in. long, about ½ in. wide, obtuse; valves membranous. Seeds transverse, ovate; funicle thickened from the base, and forming an aril of about 3 folds under the seed.

W. Australia, *Drummond, Suppl. to 5th Coll. n.* 52; Murchison river, *Oldfield.* The pod seen in the latter specimens only, which otherwise agree with Drummond's.

146. **A. Murrayana,** *F. Muell. Herb.* Glabrous; branchlets slightly angular. Phyllodia linear, straight or nearly so, obtuse or with a callous hooked point, 5 to 6 in. long, 1 to 1¼ lines wide, thick, with a slightly prominent nerve and very obscurely veined. Peduncles about ½ in. long, 2 or 3 together in a short raceme, bearing each a globular head of numerous (above 50) flowers, mostly 5-merous. Sepals very thin, narrow, linear-spathulate, fully half as long as the corolla. Petals free or nearly so, narrow, very thin. Pod linear, 2 to 3 in. long, about 4 lines broad, flat, obtuse; valves membranous. Seeds transverse, ovate; funicle filiform or slightly thickened from the base, forming 2 or 3 short folds under the seed.

Queensland. Open Forest, St. George's Bridge on the Balonne, *Mitchell.*
S. Australia. Cooper's Creek, *Murray, in Howitt's Expedition.*

Murray's specimen, a single one, is in flower only; Mitchell's, of which we have several, are in fruit only; it is possible, therefore, that they may not have been correctly matched, but they appear all to belong to one species, differing from *A. leptopetala* in little besides the long narrow phyllodia.

147. **A. subulata,** *Bonpl. Jard. Malm.* 110, *t.* 45. A tall glabrous shrub, attaining 10 ft. or more, with erect, slender, slightly angular branches. Phyllodia narrow-linear, mucronulate, narrowed at the base, 3 to 6 in. long, scarcely 1 line broad, straight or nearly so, rather thin, 1-nerved. Flower-heads several, globular, small, in slender axillary racemes, the peduncles almost filiform. Flowers about 12 to 20, very small, mostly 5-merous.

Calyx thin, turbinate, usually toothed, fully half as long as the corolla. Petals smooth. Pod not seen.—DC. Prod. ii. 453.

N. S. Wales. Forests of the W. branches of Hunter's River and plains of Daley, *A. Cunningham*, also in *Leichhardt's* collection. The phyllodia are sometimes scarcely broader than in the flat-leaved variety of *A. juncifolia*, but the inflorescence is different.

148. **A. linifolia,** *Willd. Sp. Pl.* iv. 1051. A tall shrub, glabrous or minutely pubescent, sometimes glaucous when young; branchlets angular. Phyllodia linear or linear-lanceolate, narrowed at each end, 1 to 1½ in. long, 1½ to 2 or rarely 2½ lines broad, rather thin, 1-nerved, slightly veined, the slender nerve-like margins and midrib often minutely ciliate, with a small gland above the base. Racemes scarcely exceeding the phyllodia or shorter, comprising several small globular heads of about 8 to 12 flowers, mostly 5-merous. Calyx short, broadly lobed. Petals smooth, separating nearly to the base. Pod linear, very flat, 2 to 4 in. long, 4 to 6 lines broad and not contracted between the seeds; valves thinly coriaceous, with nerve-like margins. Seeds longitudinal, along the centre of the pod, the last fold of the funicle thickened into a club-shaped lateral aril, the other folds minute.—*Mimosa linifolia*, Vent. Jard. Cels. t. 2; Andr. Bot. Rep. t. 394; *M. linearis*, Wendl. Bot. Beob. 56, and Hort. Herrenh. 8, t. 18, not of Sims; *A. abietina*, Willd. Sp. Pl. iv. 1051; DC. Prod. ii. 453; *A. linifolia*, Bonpl. Jard. Malm. 56, t. 16; DC. Prod. ii. 453; Bot. Mag. t. 2168; Lodd. Bot. Cab. t. 383? (this fig. looks more like *A. subulata*).

Queensland. Brisbane river, Moreton Bay, *A. Cunningham*, *Fraser*, *F. Mueller*, and others; Wide Bay, *Leichhardt;* Broad Sound, *Bowman.*

N. S. Wales. Port Jackson to the Blue Mountains, *Sieber, n.* 465, *and Fl. Mixt. n.* 597, and others; Liverpool plains, *A. Cunningham.*

The broad-leaved forms of this species, with the margins less ciliated or not perceptibly so, connect it with the following, *A. prominens.*

149. **A. prominens,** *A. Cunn. in G. Don, Gen. Syst.* ii. 406. A tall shrub, glabrous and usually glaucous, with angular branchlets. Phyllodia from linear-lanceolate to oblong-falcate, when narrow nearly those of *A. linifolia*, but not so decidedly ciliate, more acute and the marginal gland further from the base, and passing from that to nearly those of *A. lunata*, but always much thinner than the latter, with the pinnate veins as well as the gland more conspicuous, mostly 1 to 1½ in. long, from 2 lines broad in the narrow form to 3, 4, or even 5 in the broad ones. Racemes about as long as the phyllodia, with very small globular heads of about 8 to 10 or rarely 12 to 15 small flowers, mostly 5-merous. Calyx very short, broadly lobed. Petals smooth or nearly so. Pod very flat, 2 to 3 in. long when perfect, 3, 4, or rarely 5 lines broad. Seeds longitudinal along the centre, the last fold of the funicle thickened into a fleshy clavate lateral aril, the other folds very small.—Bot. Mag. t. 3502; Dietr. Fl. Univers. N. Ser. t. 83?; *A. fimbriata*, A. Cunn. in G. Don, Gen. Syst. ii. 406.

N. S. Wales. Blue Mountains, *Caley*, *A. Cunningham*, and others.

S. Australia? Between Rocky Creek and Mount Remarkable, *F. Mueller.* Specimens very young and doubtful.

This species may prove to be a broad-leaved variety of *A. linifolia.* F. Mueller refers it to *A. lunata*, describing the pod very accurately, but that is not the fruit of the true *A. lunata*, which has always the seed lying close to the upper suture, not in the centre of the pod.

150. **A. Leichhardtii,** *Benth.* Branches slender, terete, hispid with long spreading hairs. Phyllodia linear-lanceolate, falcate, mucronate, rarely above 1 in. long, the midrib and nerve-like margins prominent and ciliate, otherwise veinless, the marginal gland about the middle, often wanting. Racemes much longer than the phyllodia, slender, with numerous small heads of 20 or more flowers, mostly 5-merous. Calyx turbinate, shortly lobed, half as long as the corolla. Petals smooth. Pod very flat, 2 to 4 in. long, about 4 lines broad, hispid with long hairs, but not seen ripe.

Queensland. Expedition range, *Leichhardt.*

151. **A. crassiuscula,** *Wendl. Comm. Acac.* 31, *t.* 8. A shrub of several feet, glabrous and often rather glaucous when young; branches usually acutely angled. Phyllodia numerous, linear, often falcate, with a small oblique point or the lower ones obtuse and almost lanceolate, rather thick, 1-nerved and veinless, the nerve-like margins often but not always ciliate, 1½ to 2 in. long in some specimens, above 3 in. in others, 1½ to 2 or in larger ones 3 lines broad, the marginal gland below the middle. Racemes shorter than the phyllodia, with several small dense globular heads of 20 or more flowers. Calyx turbinate, fully half as long as the corolla, ciliate and readily separating into spathulate sepals. Petals often separating, with prominent midribs. Pod linear, rather thick, about 2½ lines broad, contracted between the seeds. Seeds in the centre of the pods, but not seen perfect.—DC. Prod. ii. 453; Hook. f. Fl. Tasm. i. 108; *A. adunca,* A. Cunn. in G. Don, Gen. Syst. ii. 406; *A. Sieberiana.* Tausch. in Flora, 1836, 420, not of DC.

Queensland. Moreton Bay, *Fitzalan.*

N. S. Wales. Port Jackson to Blue Mountains, *R. Brown, Sieber, n.* 464; rocky barren brushy hills of the Blue Mountains, *A. Cunningham, Fraser.*

Tasmania. Flinders Island, Bass's Straits, *J. D. Hooker.*

Although evidently distinct from all other species I have examined, it is impossible to define this one satisfactorily until the fruit shall be more certainly known. It is certainly very distinct from the Western plant referred to in 'Plantæ Preissianæ.'

152. **A. decora,** *Reichb. Icon. Exot. t.* 199. A shrub of several feet, glabrous or slightly glaucous-tomentose; branchlets angular. Phyllodia lanceolate or linear, narrowed at the base, straight or slightly falcate, 1 to 2 in. long, thicker than in *A. linifolia,* 1-nerved, slightly penniveined, with nerve-like margins and usually with a gland below the middle. Racemes usually numerous, longer than the phyllodia, with several globular heads of about 20 flowers, mostly 5-merous. Calyx shortly lobed, not half so long as the corolla. Pod straight or curved, flat, about 3 lines broad. Seeds longitudinal, close to the upper suture; last fold of the funicle thickened into a lateral club-shaped aril, the lower folds very small.

Queensland. Keppel Bay, *R. Brown*; Dawson river, *F. Mueller;* near Mount Pluto, *Mitchell.*

N. S. Wales. Liverpool plains, *A. Cunningham;* New England, *C. Stuart.*

Perhaps a variety of *A. buxifolia,* differing only in the longer phyllodia and more numerous flowers in the heads. Some specimens from the Melbourne Botanic Garden, apparently of this species, have the phyllodia still longer and narrower.

153. **A. buxifolia,** *A. Cunn. in Field, N. S. Wales,* 344. A glabrous shrub with angular branchlets. Phyllodia obliquely oblong-lanceolate, somewhat falcate, narrowed at each end, usually under 1 in., rarely 1½ in. long,

rather thick, with a scarcely prominent nerve and obscure veins, the marginal gland small or none. Racemes scarcely exceeding the phyllodia, with several small globular heads of 8 to 12 or rarely more flowers, mostly 5-merous. Calyx short, broad. Petals smooth. Pod straight or curved, flat, 3 or 4 lines broad. Seeds longitudinal, close to the upper suture; last fold of the funicle thickened into a lateral club-shaped aril, the lower ones very small.—Hook. Ic. Pl. t. 164.

N. S. Wales. Hunter's and Macquarrie rivers, *A. Cunningham*, *Fraser*; New England, *C. Stuart*; Clarence river, *Beckler*.

Nearly allied to *A. lunata*, and perhaps a variety with narrower straighter phyllodia, and some specimens appear almost to pass into *A. decora*.

154. **A. lunata,** *Sieb. in DC. Prod.* ii. 452. A glabrous shrub of several feet, with angular branchlets, often glaucous. Phyllodia oblong-falcate or almost ovate, but very oblique, obtuse or with a minute oblique or recurved point, rarely 1 in. long, 3 to 6 lines broad, coriaceous, 1-nerved, obscurely veined, the margins scarcely thickened, the gland minute or none. Racemes longer than the phyllodia, with several small heads of 4 to 10 comparatively large flowers, mostly 5-merous. Calyx short and broad. Petals smooth. Pod flat, glaucous, straight or curved, 3 to 4 lines broad. Seeds longitudinal, close to the upper suture, the last fold of the funicle thickened into a lateral club-shaped aril, the lower folds very small.—Bot. Reg. t. 1352; Lodd. Bot. Cab. t. 384; Sweet, Fl. Austr. t. 42; F. Muell. Pl. Vict. ii. 17 (partly); *A. falcinella*, Tausch. in Flora, 1836, 419; *A. brevifolia*, Lodd. Bot. Cab. t. 1235?; *A. oleafolia*, A. Cunn, in G. Don, Gen. Syst. ii. 405; *A. dealbata*, A. Cunn. in Field, N. S. Wales, 315, not of Lindl.; *A. furfuracea*, G. Don, Gen. Syst. ii. 405.

Queensland. Moreton Bay, *A. Cunningham*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 461, *and Fl. Mixt. n.* 600, and others; extending to the Macquarrie river, and Argyle County, *A. Cunningham*, *Backhouse*.

Victoria. Barren scrubby ridges between Mayday Hills and Ovens river, *F. Mueller* (specimens not in fruit).

Without the fruit this species may readily be confounded with *A. prominens*, the phyllodia are however more coriaceous, with the veins less conspicuous and the flowers in the heads usually rather fewer and larger.

155. **A. brachybotrya,** *Benth. in Hook. Lond. Journ.* i. 347. A handsome shrub of several feet, glabrous glaucous or silvery-white with a close silky-pubescence; branchlets slightly angular, soon terete. Phyllodia obliquely obovate or oblong, obtuse or rarely mucronulate, ½ to 1 in. or in very luxuriant specimens twice as long, narrowed at the base, coriaceous, 1-nerved, penniveined, the marginal gland near the middle, small or often wanting. Peduncles rather short, solitary, or more frequently 2 to 5 on a very short common peduncle, often growing out into a leafy branch, each bearing a globular head of numerous (20 to 50) flowers, mostly 5-merous. Sepals linear-spathulate, free or connected by a thin membrane. Petals smooth, distinct or readily separating. Pod linear, straight or undulate, 3 to 5 lines broad, flat but the valves often alternately convex and concave over the seeds and sometimes much warted. Seeds longitudinal; funicle thickened at the end into a club-shaped lateral aril and once folded below it.—*A. argyrophylla*, Hook.; F. Muell. Pl. Vict. ii. 18.

N. S. Wales. Peel's Range, *A. Cunningham*; from the Darling to the Barrier range, *Victorian Expedition.*

Victoria. Not uncommon in the N.W. desert, *F. Mueller.*

S. Australia. Towards Spencer's Gulf, *F. Mueller*; Mount Hall, *Warburton.*

The following forms appear at first sight very distinct, but they pass too gradually into each other to be separable as species.

a. *argyrophylla.* Silvery-silky, turning sometimes to a golden-yellow. Phyllodia mostly ¾ to 1½ in. long. Flower-heads often solitary, usually with more than 30 flowers.—*A. argyrophylla*, Hook. Bot. Mag. t. 4384; *A. bombycina*, Benth. in Lindl. and Paxt. Fl. Gard. ii. 101, f. 186.—Chiefly in S. Australia.

b. *glaucophylla.* Glaucous and more or less pubescent. Phyllodia mostly ½ to ¾ in. long. Flower-heads mostly 2 to 5, shortly racemose, with about 20 to 30 flowers.—*A. brachybotrya*, Benth., as above; *A. dictyocarpa*, Benth. in Linnæa, xxvi. 616.—N. S. Wales and Victoria.

c. *glabra.* Quite glabrous. Phyllodia small and narrow. Flower-heads small.—Murray desert.

156. **A. Wattsiana,** *F. Muell. Herb.* A dense bushy glabrous shrub, of 4 to 5 ft.; branchlets angular. Phyllodia obovate-oblong, very obtuse, narrowed at the base, ½ to 1 in. long, coriaceous, 1-nerved, obscurely penniveined, the marginal gland below the middle sometimes wanting. Racemes as long as the phyllodia, with usually few globular heads of about 15 to 20 flowers, mostly 5-merous. Calyx short, broad, toothed. Petals smooth. Pod falcate, coriaceous, 2 to 4 in. long, 3 to 4 lines broad, not contracted between the seeds. Seeds longitudinal along the centre; funicle long and much folded round the seed, but not seen quite ripe.

S. Australia. Between Broughton and Rocky Creeks, *F. Mueller.* The foliage and habit are those of *A. brachybotrya*, it has also much resemblance in habit and calyx to the shorter leaved forms of *A. lunata* (*A. oleæfolia*, A. Cunn.), to which I had referred it in the 'Linnæa,' xxvi. 616, but differs essentially from them both in the pod and especially in the elongated funicle.

157. **A. podalyriæfolia,** *A. Cunn. in G. Don, Gen. Syst.* ii. 405. A tall shrub, more or less mealy-glaucous, and minutely pubescent, rarely quite glabrous. Phyllodia obovate ovate or oblong, more or less oblique, obtuse or narrowed at one or both ends, mostly 1 to 1½ in. long, 1-nerved, with 1 or 2 marginal glands. Racemes much longer than the phyllodia, with several, often 10 to 20, small globular heads of numerous small mostly 5-merous flowers. Calyx turbinate, sinuate-toothed, not half so long as the corolla. Petals free or very slightly cohering, hirsute, with prominent midribs. Pod very flat, nearly ¾ in. broad, 1 to several in. long, glabrous or pubescent. Seeds ovate, longitudinal; funicle rather long, in short folds under the seed, the last fold slightly thickened. *A. Fraseri*, Hook. Ic. Pl. t. 171; *A. Caleyi*, A. Cunn.; Benth. in Hook. Lond. Journ. i. 317 (a stunted specimen).

Queensland. Brisbane river, Moreton Bay, *A. Cunningham*, *Fraser*, and others; in the interior about Lake Salvator, etc., *Mitchell*; between the Suttor and Dawson rivers, *F. Mueller*; Wide Bay, *C. Moore.*

158. **A. uncifera,** *Benth. in Mitch. Trop. Austr.* 341. A shrub of about 5 ft., softly velvety-pubescent; branchlets nearly terete. Phyllodia obliquely oblong or elliptical-falcate, narrowed at both ends, with a hooked point, 1½ to 2 in. long, ½ to ¾ in. broad, 1-nerved, with 1 to 3 minute marginal glands. Racemes rather longer than the phyllodia, with several glo-

bular heads, smaller than in *A. podalyriæfolia*, on shorter peduncles. Flowers also smaller, otherwise like those of that species, of which this may prove to be a variety. Pod unknown.

Queensland. Foot of sandstone rocks near Mount Pluto, *Mitchell.*

159. **A. vestita,** *Ker, in Bot. Reg. t.* 698. A tall bushy shrub, softly pubescent or villous, usually 8 to 10 ft. high, but attaining twice that size. Phyllodia numerous, obliquely ovate-elliptical, more or less recurved-falcate, undulate, mostly about ½ in. long, with a fine but not pungent point, cuneate at the base, 1-nerved. Racemes much longer than the phyllodia, forming a terminal leafy panicle, each with several small globular heads of 10 to 20 or sometimes more flowers, mostly 5-merous. Calyx turbinate, shortly and obtusely lobed, nearly half as long as the corolla, rarely separating into distinct sepals. Petals smooth, glabrous, usually free. Pod very flat, straight, glabrous and glaucous, 1½ to 3 in. long, 4 to 5 lines broad. Seeds oval-oblong, longitudinal along the centre of the pod; last fold of the funicle thickened into an oblong-clavate lateral aril nearly as long as the seed, with 2 or 3 short filiform folds below it, and transverse at the base.—DC. Prod. ii. 452.

N. S. Wales. Blue Mountains, *Sieber, n.* 444, *A. Cunningham*, and others.

160. **A. cultriformis,** *A. Cunn. in G. Don, Gen. Syst.* ii. 406. A tall bushy shrub, glabrous and often mealy-glaucous when young; branchlets angular. Phyllodia numerous, obliquely obovate-lanceolate, recurved-falcate or almost triangular, mucronulate, narrowed at the base, ½ to ¾ or rarely 1 in. long, coriaceous, 1-nerved, with thickened margins and usually 1 marginal gland, sometimes on a prominent angle as in the *Triangulares*. Racemes numerous, much longer than the phyllodia, consisting often of 10 to 20 globular heads, forming a terminal leafy panicle. Flowers 10 to 20 in the head, mostly 5-merous. Calyx broad, lobed, scarcely half as long as the corolla. Petals smooth. Pod very flat, glabrous, glaucous, 2 or 3 in. long when perfect, 3 or rarely 4 lines broad. Seeds longitudinal, near the suture; last fold of the funicle thickened into a lateral club-shaped aril, with very small folds below it.—Hook Ic. Pl. t. 170; Paxt. Mag. xi. 113, with a fig.; *A. scapuliformis*, A. Cunn. in G. Don, Gen. Syst. ii. 405 (specimens with rather broader and shorter phyllodia).

N. S. Wales. Rocky ridges and brushy forest ground, Hunter's and Dumaresq rivers, *A. Cunningham*; sources of the M'Intyre, on the borders of Queensland, *Herb. F. Mueller.*

A. glaucifolia, Baum. Cat. Hort. Bellv., from Meissner's description, Pl. Preiss. i. 14, must be the short-leaved form of *A. cultriformis.* In Pl. Preiss. ii. 202, a specimen in Herb. Lehmann, is mentioned as believed to have been gathered in West Australia, but this must be a mistake, at any rate I know of no Western species at all like it.

161. **A. pravissima,** *F. Muell. Fragm.* i. 5, *and Pl. Vict.* ii. 5, *t.* 24. A tall shrub or small tree, quite glabrous; branchlets angular, slender. Phyllodia numerous, broadly and very obliquely falcate obovate or almost trapezoid, recurved, 3 to 5 lines or rarely ½ in. long, the lower terminal angle acute or mucronate, the upper one rounded as in the *Triangulares*, but the gland not placed at the angle, but much below it, rather thick and usually 2-nerved. Racemes much longer than the leaves, with 10 to 20 small globular flower-heads, the whole forming a handsome terminal leafy panicle. Flowers about 8 to 12 in the head, mostly 5-merous. Calyx small, obtusely lobed. Petals smooth. Pod flat, glabrous. Seeds longitudinal along the centre of the pod;

funicle very shortly thickened into a small fleshy aril under the seed, with several small folds below it.

Victoria. Valleys of the Australian Alps and banks of streams descending from them, foot of Buffalo ranges, Snowy and Macalister rivers, etc., *F. Mueller.* The affinity of this species is evidently with *A. cultriformis*, although the phyllodia are nearly those of the *Triangulares.*

162. **A. pyrifolia,** *DC. Mem. Leg.* 447, *and Prod.* ii. 452. A glabrous shrub, often glaucous, with slightly flattened branches. Phyllodia broadly ovate, with a pungent point, 2 to 3 in. long and almost as wide in perfect specimens, but often not half that size, thinly coriaceous, 1-nerved, penniveined. Stipules spinescent. Racemes numerous, often more than twice as long as the phyllodia, with 10 to 12 or more rather small but dense globular heads of very numerous flowers, often above 100, mostly 5-merous. Sepals distinct, linear-clavate. Pod flat, more or less curved or circinate, 2 to 3 in. long when perfect, 4 to 6 lines broad, often slightly contracted between the seeds, with rather thick margins; valves convex over the seeds. Seeds ovate, rather thick; funicle thickened and much folded under them.—F. Muell. Fragm. iii. 17.

N. Australia. Dampier's Archipelago, *A. Cunningham*; Nichol Bay, *F. Gregory's Expedition.*

W. Australia. Sharks Bay, *Baudin's Expedition.*

The large phyllodia and spinescent stipules distinguish this from all others with long racemes of globular heads.

163. **A. myrtifolia,** *Willd. Spec. Pl.* iv. 1054. A tall glabrous shrub, slightly glaucous in some varieties; branches acutely angular. Phyllodia oblique or falcate, obovate, ovate-lanceolate, lanceolate or linear, usually acute or mucronate and narrowed at the base, 1 to 2 in. long or much longer when narrow, coriaceous, 1-nerved, with thickened nerve-like margins, the pinnate veins rarely conspicuous, the marginal gland below the middle. Racemes rarely exceeding the phyllodia, with several almost sessile flower-heads, consisting of only 2, 3 or 4 rather large flowers, almost always 4-merous. Calyx very short, broadly lobed. Petals smooth, separating nearly to the base. Pod linear, curved, flattened, but thick, with very thick margins, usually 1 to 2 in. long, about 2 lines broad; valves hard and almost woody. Seeds oblong, longitudinal; funicle very short, scarcely folded, thickened nearly from the base into an almost cup-shaped fleshy aril.—*Mimosa myrtifolia*, Sm. in Trans Linn. Soc. i. 252, and Bot. Nov. Holl. 51, t. 15; *A. myrtifolia*, DC. Prod. ii. 452; Sw. Fl. Austr. t. 49; Lodd. Bot. Cab. t. 772; Hook. f. Fl. Tasm. i. 107; Meissn. in Pl. Preiss. i. 14; F. Muell. Pl. Vict. ii. 19.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, Sieber, n.* 437, *and Fl. Mixt. n.* 602, and others. and southward to Twofold Bay, *F. Mueller.*

Victoria. Frequent in barren places, as well in the lowlands as in the mountains throughout the colony, *F. Mueller.*

Tasmania. Port Dalrymple, *R. Brown*; abundant in dry soil throughout the colony, *J. D. Hooker.*

S. Australia. Rocky soils in the hill land, *Behr*; Encounter Bay, *Whittaker*; Mount Torrens, *F. Mueller.*

W. Australia. King George's Sound and to the eastward, *R. Brown*, *Preiss, n.* 927, and others.

The three following forms, distinguished by the breadth of the phyllodia, are usually considered as species, but they all pass into each other in W. Australia.

a. *celastrifolia.* Phyllodia mostly 1½ to 2 in. long and often 1 in. broad.—*A. celastrifolia*, Benth. in Hook. Lond. Journ. i. 349; Bot. Mag. t. 4306; Meissn. in Pl. Preiss. i. 14; *A. Pawlikowskyana*, Ohlend. in Neue Allgem. Gartenzeit, 1845, 369, and *A. Ludwigii*, Ohlend. Verz. 1844, 74, according to Seem. Eingef. Acac. 28.—Swan River, *Drummond, 1st Coll. n.* 281; Grantham district, W. Australia, *Preiss, n.* 915, 916.

b. *normalis.* Phyllodia mostly 1 to 2 in. long and about ½ in. broad. The common form in the Eastern and Southern colonies.

c. *angustifolia.* Phyllodia mostly 2 to 4 in. long, 2 to 4 lines broad.—*A. marginata*, R. Br. in Ait. Hort. Kew. ed. 3, v. 462; Wendl. Comm. Acac. 19, t. 5 A; DC. Prod. ii. 452; Meissn. in Pl. Preiss. i. 14; *A. trigona*, A. DC. Not. 8. Pl. Rar. Jard. Gen. 20.—To this belong the great majority, but not all of the King George's Sound specimens, occurring very rarely in the other colonies.

SERIES VII. PLURINERVES.—Phyllodia vertically flattened, obtuse or with an innocuous or recurved point (rarely pungent when the phyllodium is broad), with 2 or or more longitudinal nerves. Flowers in globular heads on axillary peduncles, either solitary or clustered or shortly racemose.

A. ARMATÆ.—Stipules spinescent. Phyllodia falcate, subulate-acuminate or almost pungent.

These correspond to the subseries *Armatæ* of *Uninerves*, except that the phyllodia are larger.

164. **A. scalpelliformis,** *Meissn. in Pl. Preiss.* ii. 200. A tall shrub, glabrous or the striate branches pubescent. Phyllodia obliquely triangular-lanceolate, acute and pungent-pointed, ¾ to 1½ in. long, 3 to 5 lines broad, tapering at the base, 2-nerved, penniveined, with nerve-like margins, with a gland on the prominent angle of the upper edge. Stipules setaceous-spinescent, spreading. Peduncles solitary, bearing each a globular flower-head. Flowers not seen perfect, but the withered remains have a broad short lobed calyx and 5 petals separating almost to the base. Pod very long, scarcely 1½ lines broad, readily twisting, with broad very thick obtusely dilated sutures. Seeds oval-oblong, longitudinal, the last 2 or 3 folds of the funicle thickened into a small aril under the seed.

W. Australia, *Drummond, 2nd Coll. n.* 161. Differing from *A. urophylla* chiefly in the phyllodia.

165. **A. urophylla,** *Benth. in Bot. Reg.* 1841, *Misc.* 21, *and in Hook. Lond. Journ.* i. 329. A shrub of several ft., glabrous or slightly hirsute; branches angular striate. Phyllodia semiovate or broadly and very obliquely ovate-lanceolate, subulate, acuminate, undulate, 1½ to 3 in. long and ¾ to 1 in. broad below the middle, in luxuriant cultivated specimens often twice that size, 2- to 4-nerved, the lower margin nearly straight, the upper one much curved and crenulate, the marginal gland near the base. Stipules setaceous-spinescent. Peduncles 2 to 4 lines long, solitary clustered or forming very short racemes, bearing each a small globular head of 8 to 12 flowers, either 5-merous or 4-merous. Calyx short, truncate. Petals smooth. Pod often 5 or 6 in. long, scarcely 1½ lines broad, readily twisting, with very thick obtusely dilated sutures. Seeds oval-oblong, longitudinal, the last 2 or 3 folds of the funicle thickened into a small aril under the seed.—Bot. Mag. t. 4573; Meissn. in Pl. Preiss. i. 8; *A. smilacifolia*, Field. and Gardn. Sert. Pl. t. 3.

W. Australia. King George's Sound, *Menzies*; Swan River and Darling Range, *Drummond, 2nd Coll. n.* 282, *Preiss, n.* 913, 918; Harvey and Gordon rivers, *Oldfield.*

B. TRIANGULARES.—Stipules setaceous or minute, not spinescent. Phyllodia small (under ½ in. long), broadly falcate-ovate or triangular, with small points often pungent.

These correspond to the subseries *Triangulares* of *Uninerves*, with which I had formerly united them as an independent series.

166. **A. sublanata,** *Benth. in Hueg. Enum.* 42. A rigid shrub, woolly-pubescent when young, at length glabrous; branches striate. Phyllodia from broadly triangular-falcate and mucronate to lanceolate-falcate and tapering into a pungent point, rarely ½ in. long, occasionally approaching in form those of *A. decipiens*, but the upper angle much more obtuse, without any or with a very minute gland, and usually much narrower and always with 3 to 5 or even more nerves. Stipules small, deciduous. Peduncles longer than the phyllodia, bearing each a globular head of 20 to 30 flowers, mostly 5-merous, glabrous or slightly hirsute, the bract-points projecting beyond the young buds. Calyx shortly toothed, half as long as the corolla. Pod linear, much twisted, about 2 lines broad.—*A. pravifolia*, F. Muell. Fragm. i. 4, and in Journ. Linn. Soc. iii. 117.

S. Australia. S. coast, *R. Brown*; Crystal Brook, Flinders and Elders Ranges, *F. Mueller* (good specimens only in *Herb. R. Br.*). Some young specimens of Oldfield's from Port Gregory in W. Australia are also like this species, but insufficient for determination.

167. **A. amblygona,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 332. Branches elongated, diffuse, rather rigid, terete, pubescent. Phyllodia falcate-lanceolate or almost triangular, 3 to 4 lines long, 1½ to 3 lines broad, several-nerved, the lower nerve produced into a sharp point, the upper margin much curved but without any glandular angle. Peduncles rarely exceeding the phyllodia, bearing each a globular head of about 10 to 15 flowers, mostly 5-merous. Sepals broadly cuneate, cohering or at length separating, fully half as long as the corolla. Petals smooth, readily separating. Pod linear, usually curved, 1½ to 2 lines broad, contracted between the seeds. Seeds ovate, longitudinal; funicle thickened into a lateral oblong or club-shaped aril, with a short fold below it.—*A. Nernstii*, F. Muell. Fragm. iv. 3.

Queensland. Brisbane river, Moreton Bay, *A. Cunningham*, *C. Stuart*, *Nernst*; towards Mount Pluto, *Mitchell*; between Suttor river and Peak Range, *F. Mueller*.

N. S. Wales. Highlands west of Macquarrie river, *Fraser*; rocky hills on Wellington and Lachlan rivers, *A. Cunningham*.

168. **A. deltoidea,** *A. Cunn. in G. Don, Gen. Syst.* ii. 401. A much-branched shrub, glabrous or pubescent when young, with terete branches. Phyllodia numerous, obliquely triangular-ovate, acute, mucronate, 2 to 5 lines long and almost as broad, thick, several-nerved, the upper margin much curved but without any gland-bearing angle. Stipules setaceous, persistent. Peduncles slightly exceeding the phyllodia, bearing each a small globular head of numerous (30 to 50) very small flowers, mostly 5-merous. Calyx deeply divided into narrow thin lobes. Petals slightly thickened and pubescent at the tips, cohering above the middle. Stamens few. Pod elongated, slightly curved, flat, coriaceous, glandular-hispid, nearly 4 lines broad. Seeds not seen.

N. Australia. Greville Island, Montague Sound, and Barren Islands, Regent's Inlet, N.W. coast, *A. Cunningham*.

169. **A. stipulosa,** *F. Muell. in Journ. Linn. Soc.* iii. 119. Glandular-pubescent or hirsute; branches terete. Phyllodia obliquely ovate-falcate or almost triangular, tapering into a pungent point, 2 to 3 or rarely 4 lines long and almost as broad, thick and faintly several-nerved, the upper angle very obtuse, with a small gland about the middle or often none. Stipules setaceous, spreading. Peduncles usually exceeding the phyllodia, pubescent, bearing each a dense head of numerous (above 30) flowers, mostly 5-merous but sometimes 6- to 8-merous. Calyx thin, striate, pubescent, as long as the corolla, at length separating into distinct sepals. Petals narrow, cohering. Stamens very numerous. Pod linear, curved, flat, glandular-hispid, 2 to 3 lines broad, scarcely contracted between the seeds. Seeds very oblique; funicle with the last 3 folds dilated into an almost membranous aril at the base of the seed.

N. Australia. Upper Victoria river and Sturt's Creek. *F. Mueller.* Very near *A. deltoidea*, differing chiefly in the flowers twice as large, and in the proportion of the calyx and corolla.

C. BREVIFOLIÆ.—Phyllodia under 1 in. long, obovate ovate or broadly oblong, very obtuse, often undulate. Stipules inconspicuous.

170. **A. loxophylla,** *Benth. in Linnæa,* xxvi. 622. A diffuse shrub, very resinous, but otherwise glabrous. Phyllodia numerous, very obliquely obovate or oblong, incurved, very obtuse, but often minutely mucronulate, in some specimens not exceeding $\frac{1}{4}$ in., in others narrower and $\frac{1}{4}$ to $\frac{1}{2}$ in. long, rather thick, with 2 faint nerves, otherwise veinless. Stipules obsolete. Peduncles 1 to 2 lines long, bearing each a globular head of above 20 flowers, mostly 5-merous. Calyx turbinate, rather thick, above half as long as the corolla, shortly and broadly lobed and ciliate. Petals smooth, narrow, free or readily separating. Pod curved, linear, about 2 lines broad; valves convex over the seeds, flat between them. Seeds ovate, longitudinal; funicle dilated almost from the base into a cup-shaped almost membranous aril of 2 or 3 folds.

W. Australia. Towards Cape Riche, *Drummond, 5th Coll. n.* 14 (with short broad phyllodia), *Maxwell* (with longer narrower phyllodia).

171. **A. setulifera,** *Benth. in Linnæa,* xxvi. 625. Apparently diffuse, with the aspect almost of *A. Wickhami*, quite glabrous. Phyllodia numerous, obliquely ovate, undulate, obtuse with a very oblique bristle-like point, rarely above 2 lines long and broad, rigid, with several very faint nerves, of which 2 or 3 are rather more prominent. Stipules deciduous. Peduncles not exceeding the phyllodia, rigid, bearing each a small globular dense head of about 12 to 20 flowers, mostly 5-merous. Calyx thin, toothed, readily separating into distinct sepals. Petals rather thick. Pod not seen.

N. Australia. N.W. coast, *Bynoe.*

172. **A. translucens,** *A. Cunn. in Hook. Ic. Pl. t.* 160. A bush shrub or small tree, glabrous or the young shoots pubescent; branchlets terete or slightly angular. Phyllodia from obliquely obovate to narrow-oblong or almost linear, incurved, usually much undulate, mostly about $\frac{1}{2}$ in. but the lower ones sometimes 1 in. long, obtuse with an oblique or recurved terminal gland, coriaceous, obscurely several-nerved. Peduncles rigid, $\frac{1}{2}$ to 1 in. long, bearing each a dense globular head of numerous flowers, mostly 5-merous.

Calyx broad, cup-shaped, shortly toothed, scarcely half as long as the corolla. Petals striate, but smaller and less rigid than in *A. impressa.* Pod 1 to 1½ in. long, flat but thick and almost woody, obtusely hooked at the end, about 2 lines broad above the middle and gradually narrowed into a long stipes, obliquely veined, partitioned inside between the seeds. Seeds oblong, oblique; funicle slightly folded and gradually dilated into a cup-shaped aril at the base of the seed.

N. Australia. Montague Sound and Bay of Rest, N.W. coast, *A. Cunningham;* Sturt's Creek, *F. Mueller;* Islands of the Gulf of Carpentaria, *R. Brown, Henne.* The pod is that of some *Juliflorœ*, but has only been seen in the narrow-leaved specimens.

173. **A. impressa,** *F. Muell. in Journ. Linn. Soc.* iii. 133. A tall shrub, the branches slightly angular, more or less pubescent as well as the foliage. Phyllodia obovate or obovate-oblong, very oblique, undulate, obtuse or with a small glandular point, ½ to ¾ or rarely 1 in. long, with 3 to 5 nerves more prominent than in *A. translucens*, and anastomosing veins. Peduncles about as long as the phyllodia, bearing each a globular head of about 12 to 20 flowers, mostly 5-merous. Sepals distinct or slightly coherent, spathulate. Petals rigid and striate, united at the base. Pod straight or nearly so, thinly coriaceous, flat with thickened margins, about ½ in. broad, very glutinous and villous. Seeds oval-oblong, transverse, the central area much depressed; funicle forming several folds, the last 2 or 3 dilated into a rather small aril at the base of the seed.

N. Australia. Sturt's Creek, Victoria and Van Alphen rivers, *F. Mueller;* Short's Range, *M'Douall Stuart.* Very near *A. translucens* in foliage and flowers, but with a very different fruit.

D. OLIGONEURÆ.—Phyllodia above ½ in. and mostly above 1 in. long, oblong lanceolate or linear, straight or slightly falcate, with 2 or 3 nerves faintly or not at all veined between them and usually not glutinous.

Although this subseries is generally distinct from the next two by the phyllodia with only 2 or 3 prominent nerves, yet the *A. Simsii* is very variable in this respect, connecting the *Oligoneurœ* with the *Nervosœ*, and *A. subporosa*, a very faintly nerved species, has the resinous foliage of several of the *Nervosœ*.

174. **A. bivenosa,** *DC. Prod.* ii. 452. A large bushy shrub, glabrous and often glaucous, or the upper leaves and inflorescence of a golden-yellow. Phyllodia from obovate to oblong-lanceolate, obtuse and mostly with a callous recurved point, 1½ to 3 in. long in the commonest form, 1 to 1½ in the short-leaved varieties, narrowed at the base, coriaceous, with 2 more or less prominent nerves, penniveined and with nerve-like margins. Racemes of few globular heads with a flexuose rhachis and short peduncles, or reduced to a single peduncle with a single head, of 20 to 30 flowers, not very small and mostly 5-merous. Calyx sinuate-toothed and petals smooth as in *A. salicina.* Pod elongated, nearly straight, flat, coriaceous, about 3 lines broad. Seed not seen perfect.—*A. binervosa*, DC. Mem. Leg. 448; *A. xanthina*, Benth. in Hook. Lond. Journ. i. 355; Meissn. in Pl. Preiss. i. 16; *A. elliptica*, A. Cunn.; Benth. in Hook. Lond. Journ. i. 347.

N. Australia. N.W. coast, Admiralty Bay, *Baudin's Expedition;* Bay of Rest and Dampier's Archipelago, *A. Cunningham;* Depuech Island, *Bynoe;* Hearson Island, Nichol Bay, *F. Gregory's Expedition.*

W. Australia. Swan River, *Baudin's Expedition, Drummond*, 1*st Coll. n.* 283, *Preiss, n.* 928; Sharks Bay, *Milne;* Dirk Hartog's Island, *A. Cunningham.*

There are two forms, one (*A. elliptica*, A. Cunn.) more glaucous with short obovate oblong phyllodia faintly 2-nerved, the other (*A. xanthina*, Benth.) with longer phyllodia more prominently nerved and often of a golden colour. Both are in the Paris herbarium, from Baudin's Collection, and we have both from the N.W. coast, as well as from the west, the yellow one chiefly from Swan River; and, different as they look, some specimens are quite intermediate or combine the two.

175. **A. trineura,** *F. Muell. Pl. Vict.* ii. 25, *and Fragm.* iv. 5. A strongly scented bushy shrub, glabrous and glaucous; branchlets slightly angular. Phyllodia narrow, cuneate-oblong, straight or slightly curved, very obtuse, mostly 1½ to 2 in. long, 3 to 4 lines broad, narrowed at the base, with 3 prominent nerves and a few oblique veins. Flower-heads small, globular, in very short racemes of 3 to 6. Flowers above 20 in the head, very closely packed, glutinous and mostly 5-merous. Sepals linear-spathulate. Petals smooth, usually free. Pod unknown.

Victoria. Sandy banks of the Wimmera, *Dallachy;* N.W. desert, *Lockhart Morton.*

176. **A. nitidula,** *Benth.* A low and diffuse or erect and bushy glabrous shrub, occasionally slightly glutinous; branchlets terete or nearly so. Phyllodia linear-cuneate, obtuse or with a minute callous point, mostly ½ to 1½ in. long, rather thick, rigid and prominently 2- or 3-nerved. Peduncles slender, mostly in pairs, 2 to 4 lines long, bearing each a small globular head of 12 to 20 flowers, mostly 5-merous. Sepals free, narrow, linear-spathulate, ciliate. Petals smooth, distinct from the base or nearly so. Pod not seen.

W. Australia, *Drummond*, 3*rd Coll. n.* 128 (phyllodia 1 to 1½ in.); along granite boulders, Goose Island Bay, *R. Brown;* Cape Arid, *Maxwell* (phyllodia ½ to ¾ in.). The species approaches in some respects *A. dura*, but differs in the nearly straight phyllodia with at least 2 nerves, both distinct from the margin, more numerous flowers, etc.

177. **A. heteroclita,** *Meissn. in Pl. Preiss.* i. 318. An erect shrub of 3 or 4 ft., glabrous or the young shoots minutely silky-pubescent; branchlets more or less angular. Phyllodia from linear-lanceolate, often oblique and 1½ to 2 in. long, to linear and exceeding 3 in., rather rigid, tapering into a straight or recurved point, but scarcely pungent, narrowed at the base, with 3 fine but prominent nearly equal nerves, and veinless or nearly so between them. Peduncles solitary or in pairs, bearing each a globular head of above 20 flowers, mostly 5-merous. Sepals narrow, linear-spathulate. Petals smooth, cohering to the middle. Pod narrow-linear, flat, with thickened nerve-like margins, usually straight, 2 to 3 in. long, 1½ lines broad. Seeds longitudinal; funicle with the last fold dilated into a short fleshy oblique lateral aril and short filiform folds below it.—*A. trissoneura*, F. Muell. Fragm. iv. 6.

W. Australia. Towards Cape Riche, *Preiss, n.* 938, *Drummond*, 5*th Coll. n.* 8 (with narrow phyllodia), *n.* 11 (with broad phyllodia); Fitzgerald Range, *Maxwell;* Swan River, *Oldfield* (phyllodia short and broad), *Drummond* (1*st Coll.?*), *n.* 288. The latter specimens, intermediate between the narrow and broad forms, have been mixed up in some sets with specimens of *A. cochlearis*, from which this species differs in the phyllodia less rigid, with more prominent nerves and more abruptly contracted into a less pungent point.

178. **A. elongata,** *Sieb. in DC. Prod.* ii. 451. A tall shrub, glabrous or the young shoots silky-pubescent. Phyllodia narrow-linear, obtuse or

with a small oblique or hooked point, 2 to 3 or even 4 in. long, 1 to 1½ or rarely above 2 lines broad, with 3 prominent nerves, and, when broad, a few oblique veins between them. Peduncles solitary or in pairs, not exceeding ½ in. and usually much shorter, slender and pubescent, bearing a globular head of numerous (30 or more) flowers, mostly 5-merous. Calyx obtusely lobed, fully half as long as the corolla. Petals smooth, with the midrib slightly prominent. Pod linear, straight, flat, 1½ to 2 lines broad. Seeds longitudinal, the last folds of the short funicle dilated into a small aril at the base of the seed.—Bot. Mag. t. 3337; F. Muell. Pl. Vict. ii. 24; *A. hebecephala*, A. Cunn. in Loud. Hort. Brit. 406.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 443, *and Fl. Mixt. n.* 598, *A. Cunningham*, and others; southward to Illawarra, *A. Cunningham*, and Twofold Bay, *Huegel*.

Victoria. Granite ridges near the Genoa river, *F. Mueller*.

This species differs from *A. trinervata* chiefly in the long narrow phyllodia, not pungent, when very narrow they are almost like those of the *Calamiformes*. In some garden specimens the nerves almost disappear as represented in the above quoted figure; and then it is not very easy to distinguish them from those specimens of *A. viscidula* in which the nerves are very faint.

179. **A. subporosa,** *F. Muell. Pl. Vict.* ii. 24, *and Fragm.* iv. 5. A tree attaining the height of 40 ft.; branchlets slender, viscid when young, scarcely angular. Phyllodia linear-lanceolate or linear, often slightly falcate, acute with the point usually incurved, 1½ to 3 or rarely 4 in. long, from 1 line broad in the narrow, to 3 or 4 lines in the broad variety, with 2 or 3 slightly prominent nerves and when broad a few faint ones between them, and often marked with semitransparent glandular dots. Peduncles solitary or in pairs, slender, ½ in. long or shorter, bearing a globular head of 20 to 30 flowers, mostly 5-merous. Calyx lobed, not half so long as the corolla. Petals smooth. Pod unknown.

N. S. Wales. Near Mount Imlay, Twofold Bay, *F. Mueller*.

Victoria. Forest gullies on the barren range at the eastern boundary of the colony, *F. Mueller*.

Var. *linearis*. Tall shrub. Phyllodia narrow-linear. Flower-heads much smaller, with 12 to 20 smaller flowers.—With the broad-leaved variety, *F. Mueller*.

180. **A. Simsii,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 368. A tall glabrous shrub with slender branches scarcely angular. Phyllodia linear or lanceolate, usually falcate, obtuse or mucronate, much narrowed towards the base, 2 to 5 in. long, 1½ to 2 or rarely 3 lines broad, in the ordinary form with 3 or sometimes only 2 prominent nerves, smooth and finely veined between them. Peduncles solitary or in pairs, slender, rarely above 3 lines long, bearing each a globular head of 20 to 30 flowers, mostly 5-merous. Calyx nearly half as long as the corolla, lobed and readily separating into distinct sepals. Petals smooth, distinct. Pod straight, flat or undulate, acuminate, 2 to 3 lines broad. Seeds compressed-globular, longitudinal; funicle with the last fold shortly thickened into a clavate aril about half as long as the seed, with a short filiform fold below it.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*, *Henne*.

Queensland. Bay of Inlets, *Banks and Solander*; rocky hills, Cleveland Bay, *A. Cunningham*; Cape Upstart, *Burdekin Expedition*; Port Denison, *Fitzalan*; Edgecombe Bay, *Dallachy*; bed of the Belyando, *Mitchell*, also in *Leichhardt's* Collection.

Var. *multisiliqua.* Phyllodia shorter, rather broader, and nearly straight, with 3 prominent nerves and scarcely veined between them. Pod narrow.—On first seeing R. Brown's specimens from the Carpentaria Islands, they looked so different from the ordinary form that I was inclined to adopt them as a distinct species under Brown's name of *A. multisiliqua*, but I have since found that the two forms pass one into the other there as in other localities, and both phyllodia may be found even on the same specimen on different branches, depending perhaps sometimes on differences in comparative luxuriance.

E. MICRONEURÆ.—Glabrous or glaucous, not glutinous. Phyllodia thick, apparently veinless or with very fine scarcely prominent parallel veins or nerves, often scarcely visible without a lens, narrow or rarely short and obovate.

181. **A. leptospermoides,** *Benth. in Linnæa*, xxvi. 626. A low much-branched glabrous shrub, with slender terete branches. Phyllodia numerous, cuneate-oblong, obtuse, mostly ½ in. long or rather more, narrowed at the base on a short petiole, thick, apparently veinless, the few very fine nerves very rarely conspicuous except towards the base and under a lens. Peduncles solitary, about 2 lines long, bearing each a small globular head of above 20 flowers, mostly 5-merous. Sepals free, narrow-spathulate, ciliate. Petals smooth, free, rather narrow. Pod unknown.

W. Australia, *Drummond*, *4th Coll n.* 11; East Mount Barren, *Maxwell* (*Herb. Oldfield*). The narrow-leaved specimens bear some resemblance to *A. ericifolia* and the broader ones to *A. spathulata*, but have a different venation.

182. **A. homalophylla,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 365 (there spelt *omalophylla*). A small tree, glabrous or the foliage minutely hoary or pale; branchlets at first slightly angular. Phyllodia lanceolate-falcate, narrow-oblong or linear, obtuse with a small oblique point, narrowed at the base, 1 to 3 in. long, 1 to 4 lines broad, thick, very finely striate with parallel nerves only to be seen under a lens. Peduncles in pairs or clustered on a very short common peduncle, bearing dense globular heads of numerous flowers, mostly 5-merous. Sepals cuneate or spathulate, free or slightly connate, more than half as long as the corolla. Petals smooth, free. Pod linear, usually glaucous, slightly curved, 2 to 3 lines broad, longitudinally veined; valves coriaceous, convex over the seeds, contracted between them. Seeds oval-oblong, longitudinal; funicle short, much folded and dilated almost from the base into a short oblique aril.—F. Muell. Pl. Vict. ii. 28.

N. S. Wales. Abundant on the barren heaths of the interior, from the Lachlan to the Barrier Range; one of the spear-woods of the natives, *A. Cunningham*, *Victorian Expedition*, and others.

Victoria. Salt-bush flats on the Murray, yielding the hard dark and fragrant 'Myall wood,' *F. Mueller.*

S. Australia? Spencer's Gulf, *Wilhelmi.* A single specimen in leaf only, and therefore doubtful.

183. **A. pendula,** *A. Cunn. in G. Don*, *Gen. Syst.* ii. 404. A handsome tree, the foliage pale or ash-coloured, with a minute pubescence; branchlets usually pendulous, slightly angular, soon terete. Phyllodia linear-lanceolate, falcate, acuminate, narrowed towards the base, 2 to 3 in. long, rigidly coriaceous, very finely striate, with numerous parallel nerves, only to be seen under a lens. Peduncles usually clustered on a very short common peduncle, rarely above 2 lines long, bearing each a small globular head of about 12 to 20 flowers,

mostly 5-merous, much smaller than in *A. homalophylla*. Calyx turbinate and lobed, but readily separating into distinct sepals. Petals smooth. Pod linear, but very flat, and fully 5 lines broad, thinly coriaceous, transversely reticulate, the sutures bordered by a very narrow wing. Seeds nearly orbicular; funicle thickened into a narrow clavate aril, and scarcely folded below it, but not seen perfect.—*A. leucophylla*, Lindl. in Mitch. Three Exped. ii. 13.

Queensland. On the Maranoa, *Mitchell.*

N. S. Wales. Morasses of the Lachlan, *A. Cunningham*; the only timber-tree in these immense morasses, *Fraser.*

Without the fruit the specimens are very difficult to distinguish from those of *A. homalophylla*. In both species, but especially in this one, 3 of the nerves of the phyllodia are sometimes slightly prominent.

184. **A. Oswaldi,** *F. Muell. Pl. Vict.* ii. 27, *and Fragm.* iv. 5. A rigid bushy shrub, attaining 8 to 10 ft., glabrous or the young shoots hoary or silky-pubescent; branchlets slightly angular. Phyllodia falcate-lanceolate, varying to linear or oblong-lanceolate, mostly 1½ to 2 in long, rigid, with a short usually incurved innocuous or scarcely pungent point, much narrowed at the base, with numerous slightly prominent nerves, parallel or anastomosing when the phyllodium is broad. Flower-heads small, globular, sessile or nearly so, solitary or in pairs or clusters, containing about 10 to 15 flowers, mostly 5-merous. Sepals linear-cuneate or spathulate, free. Petals smooth, usually pubescent. Pod long and much curved or twisted, 3 to 4 lines broad, hard or almost woody; valves convex over the seeds, slightly contracted between them. Seeds large, ovate, longitudinal; last fold of the funicle dilated into a broad, obliquely cup-shaped, fleshy aril, the lower folds short and filiform or slightly dilated.

Queensland? Towards Broad Sound, a small specimen in *Herb. F. Mueller*, without collector's name.

N. S. Wales. Interior desert, from the Lachlan and Darling to the Barrier range and Cooper's Creek, *Victorian Expedition,* and others.

Victoria. Desert on the Murray, from the Murrumbidgee to the W. frontier, *F. Mueller.*

S. Australia. S. coast, *R. Brown*; from the Murray desert to St. Vincent's Gulf, *F. Mueller.*

Var. *abbreviata.* Phyllodia rigid, about 1 in. long, almost like those of *A. lanigera.*—S. coast, *R. Brown.*

185. **A. lineolata,** *Benth. in Linnæa*, xxvi. 626. Young shoots silky-pubescent, but soon glabrous. Phyllodia numerous, narrow-linear, erect, mucronulate, mostly 1½ to 2 in. long, 1 to 2 lines broad, rigid, finely striate with numerous parallel nerves, scarcely visible without a lens, 3 occasionally rather more prominent. Peduncles usually in pairs, recurved, very short, bearing each a globular head of numerous flowers, mostly 5-merous. Sepals narrow-spathulate, free or shortly united at the base, half as long as the corolla. Petals smooth. Pod unknown.

W. Australia, *Drummond, 4th Coll. n.* 12 *and* 13. Very nearly allied to the Eastern *A. homalophylla*, as well as to *A. leptoneura* among the *Calamiformes*, and *A. microneura* among the *Julifloræ.*

A specimen from Murchison river, *Oldfield*, has broader phyllodia and fewer and larger flower-heads, with the sepals connate, but is insufficient to determine whether it be a species or variety.

186. **A. coriacea,** *DC. Mem. Leg.* 446, *and Prod.* ii. 451. Ashy-grey, with the young shoots silky-hoary or almost golden; branchlets terete. Phyllodia long-linear, straight or curved, obtuse, narrowed towards the base, often ½ ft. long or more, 1 to 2½ lines wide, thickly coriaceous, with numerous fine and closely packed longitudinal nerves, only visible under a lens. Peduncles usually in pairs, ¼ to ½ in. long, bearing each a globular head of 20 to 25 flowers, mostly 5-merous, hoary-pubescent in the bud. Calyx ¼ line long, tubular, with ciliate lobes. Petals rather longer, united above the middle. Pod 6 to 9 in. long, moniliform; valves coriaceous, very convex, 4 to 5 lines broad, oblong and striate over the seeds, much contracted between them. Seeds longitudinal, distant; funicle folded and dilated under the seed, but not seen perfect.

N. Australia. Bay of Rest, N.W. coast, *A. Cunningham*; Depuech island, *Bynoe*; Nichol Bay, *F. Gregory's Expedition.*

W. Australia. Sharks Bay, *Baudin's Expedition*; Dirk Hartog's Island and Sharks Bay, *Milne.*

187. **A. stenophylla,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 366. A very hard-wooded tree, quite glabrous, with angular branchlets. Phyllodia long-linear, acuminate or falcate, much narrowed at the base, 6 in. to 1 ft. long, about 2 to 2½ lines broad, thinly coriaceous, not at all hoary, finely striate, with numerous prominent parallel nerves. Peduncles under ½ in. long, usually in short racemes of 3 to 6, but sometimes solitary, bearing each a globular head of 20 to 30 or more flowers, mostly 5-merous. Calyx half as long as the corolla, with short broad densely ciliate lobes. Petals pubescent. Pod long, moniliform; valves coriaceous, 4 to 5 lines broad and convex over the seeds, but not striate, much narrowed between them. Seeds ovate, longitudinal; funicle in short folds, the last slightly thickened into a small aril.—F. Muell. Pl. Vict. ii. 26.

N. Australia. Hooker's and Sturt's Creeks, *F. Mueller.*

Queensland. Maranoa and Narran rivers, *Mitchell.*

N. S. Wales. Lachlan river, *A. Cunningham*; thence to the Darling river, Barrier range, and Cooper's Creek, *Victorian Expedition*, etc.

Victoria. Banks of the Murray, *F. Mueller.*

S. Australia. Murray desert, *F. Mueller.*

A. sericophylla, F. Muell. in Journ. Linn. Soc. iii. 122, is probably a narrow-leaved form of this species.

F. Nervosæ.—Foliage often viscid, occasionally glaucous, rarely hoary or pubescent. Phyllodia straight or sometimes falcate, coriaceous or thin, with several prominent nerves and, when broad, reticulate between them, the nerves rarely reduced to three when the phyllodium is narrow.

The nerves are always either more numerous and nearer together than in the *Oligoneuræ*, or the reticulations between them numerous and prominent.

188. **A. hemignosta,** *F. Muell. in Journ. Linn. Soc.* iii. 134. A tall shrub or small tree, more or less glaucous or pale; branchlets slender, slightly striate. Phyllodia falcate-lanceolate or oblong, obtuse, much narrowed towards the base, 2 to 4 in. long and often ½ to ¾ in. broad above the middle, thinly coriaceous, with 3 or sometimes 4 or 5 fine but slightly prominent nerves and more or less reticulate between them. Peduncles slender, 3 to 5 lines long, solitary or in terminal racemes through the abortion of the upper

phyllodia, bearing each a small globular head of about 20 to 30 flowers, mostly 5-merous. Sepals very narrow, free. Petals smooth, glabrous. Pod flat, 2 to 4 in. long, about ½ in. wide; valves thin, the sutures bordered by an acute edge. Seeds orbicular; funicle oblique, not folded, filiform or very slightly thickened.

N. Australia. Cambridge Gulf, *A. Cunningham*; Albert, Victoria, Gilbert, and Roper rivers, *F. Mueller*.

189. **A. sclerophylla,** *Lindl. in Mitch. Three Exped.* ii. 139. A glabrous bushy shrub of several ft., not glutinous, according to F. Mueller, but with the strong resinous smell of the viscid species; branchlets terete or nearly so. Phyllodia oblong, linear or more or less cuneate, thick and rigid, striate with several prominent nerves, much narrowed at the base, usually about ¾ in. long, and from that to 1 or 1½ in. in the typical form. Peduncles exceedingly short, usually in pairs, bearing each a small globular head of about 12 to 20 flowers, mostly 5-merous. Sepals very thin, narrow linear-spathulate. Petals also thin and free. Pod (only seen in the long-leaved variety) linear, often about 2 in. long, not 1½ lines broad; valves convex, rather hard, longitudinally striate. Seeds oval-oblong, longitudinal, the last 2 folds of the funicle dilated into a small cup-shaped aril. – F. Muell. Pl. Vict. ii. 25; Dietr. Fl. Univers. N. Ser. t. 85 (incorrect as to nervation).

Victoria. In the Murray desert, *Mitchell, F. Mueller.*

S. Australia. From the Murray desert to Lake Alexandrina and St. Vincent's Gulf, also Spencer's Gulf, near Tumbay Bay, *F. Mueller.*

Var. *longifolia.* Phyllodia 1½ to 2 in. long. With the typical form.

190. **A. farinosa,** *Lindl. in Mitch. Three Exped.* ii. 146. A much-branched diffuse or bushy shrub, attaining several feet, glabrous or mealy-glaucous when young; branchlets terete or slightly angular. Phyllodia linear-cuneate, obtuse, much narrowed at the base, thick and rigid, ¾ to 1½ in. long, much like those of *A. sclerophylla*, but usually narrower, with much finer nerves. Peduncles very short, mealy-tomentose, usually in pairs, bearing each a small globular head of 12 to 20 or more flowers, mostly 5-merous. Sepals free, linear-spathulate. Petals smooth, free or readily separating. Pod linear, curved, about 2 lines broad or rather more; valves coriaceous and hard, not striate; margins thickened, slightly contracted between the seeds. Seeds ovoid, longitudinal; funicle short with the last folds dilated into a cup-shaped aril under the seed.

Victoria. On the Murray, *Mitchell.*

S. Australia. Murray desert to Spencer's Gulf, *F. Mueller, Wilhelmi*; Kangaroo Island, *Waterhouse.*

Very closely allied to *A. sclerophylla*, and perhaps a variety, chiefly distinguished by the nerves of the phyllodia scarcely prominent or quite inconspicuous, and thus connecting this subseries with the *Microneuræ.*

191. **A. Whanii,** *F. Muell. Herb.* Shrubby, with angular, minutely pubescent branchlets. Phyllodia oblong-linear, often incurved, very obtuse, with a minute point, 1½ to 2 in. long, much narrowed at the base, rigidly coriaceous, striate with several nerves, parallel but here and there anastomosing; upper margin slightly thickened, with usually an indented gland below the middle. Peduncles exceedingly short, in pairs or clusters, bearing

each a globular head of about 20 flowers, mostly 5-merous. Calyx rather short, thin, lobed and readily separating into distinct sepals. Petals smooth, united to near the middle. Pod unknown.

Victoria. Near Skipton, *W. Whan.* Very near *A. sclerophylla*, but the phyllodia broader, with the veins often anastomosing and the sepals and petals more united.

192. **A. heteroneura,** *Benth. in Linnæa*, xxvi. 624. A glabrous shrub, with angular branchlets. Phyllodia narrow-linear, obtuse or obliquely mucronate, much narrowed towards the base, 1½ to 3 in. long, 1 to 2 lines broad, rigid, with many parallel nerves, the central one very prominent, with 2 to 5 fine ones on each side. Peduncles slender, 2 to 3 lines long, mostly in pairs, bearing each a small globular head of from 12 to 20 flowers, 5-merous or occasionally 4-merous. Calyx short, very thin, with short broad lobes not ciliate in the bud. Petals smooth, with the midribs slightly prominent. Pod unknown.

W. Australia, *Drummond, 4th Coll. n.* 138.

193. **A. viscidula,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 363. A shrub, more or less pubescent and resinous-viscid; branchlets terete or nearly so. Phyllodia narrow-linear, with a small usually hooked point, rather incurved, narrowed at the base, 2 to 2½ in. long, 1 to 1½ lines broad, coriaceous, several-nerved. Peduncles very short, generally in pairs, rarely clustered. Flowers numerous, in dense globular or slightly ovoid heads, mostly 5-merous, but often 4-merous. Bracts acuminate. Sepals narrow-spathulate, quite free or scarcely connected at the base. Petals pubescent. Pod linear, straight, acuminate, pubescent, about 2 lines broad; valves nearly flat, with thickened margins. Seeds oblong, longitudinal; funicle with the last 2 or 3 folds thickened into an obliquely cup-shaped or apparently 2-lobed aril at the base of the seed.

N. S. Wales. Banks of the Lachlan, *Fraser;* Blue Mountains?, *Caley in Herb. R. Br.*

Var. *angustifolia.* Phyllodia about ¾ line broad. Flower-heads smaller.

194. **A. ixiophylla,** *Benth. in Hook. Lond. Journ.* i. 364. A glabrous or pubescent glutinous shrub of several feet. Phyllodia oblong, lanceolate or broadly linear, usually oblique or falcate, obtuse or with a small callous recurved point or gland, ¾ to 1½ or rarely nearly 2 in. long, 2 to 3 or rarely 4 lines broad, coriaceous, striate, with numerous fine but prominent nerves, anastomosing when the phyllodium is broad. Peduncles in pairs on short racemes of 3 or 4, bearing each a small globular head of 15 to 20 or rarely more flowers, mostly 5-merous. Sepals narrow-spathulate, quite free. Petals free or readily separating. Pod (only known in the Western specimens) very flexuose, hispid or glabrous, 2 to 3 lines broad. Seeds oblong, longitudinal; funicle dilated into an obliquely oblong or club-shaped aril, not one-third as long as the seed, and very shortly filiform and folded below it.—*A. glutinosa*, F. Muell. Fragm. iv. 6 (the Western specimens).

Queensland. In the interior towards Mount Pluto, *Mitchell;* between Severn and Condamine rivers, *Leichhardt.*

N. S. Wales. N. of Liverpool plains, *A Cunningham.*

W. Australia, *Drummond* (*4th Coll.?*), *n.* 129, and *5th Coll. n.* 13, *Maxwell.* I am still unable to detect any difference between this Western plant and the Eastern *A. ixiophylla.* Both the narrow and the broad-leaved forms occur both in the East and in the West.

195. **A. dictyophleba,** *F. Muell. Fragm.* iii. 128. Glabrous but very resinous; branchlets nearly terete. Phyllodia cuneate-oblong to lanceolate-falcate, very obtuse, with a small callous point, much narrowed at the base, 2 to 3 in. long, 2 to 5 lines broad, very coriaceous, with several nerves and intermediate reticulations, all much raised, and scabrous with a resinous exudation. Peduncles solitary, 6 to 8 lines long, bearing each a very dense globular head of 5-merous flowers. Calyx more than half as long as the corolla, very thin, with thickened resinous lobes or teeth. Pod unknown.

N. Australia. Mount Humphries, *M'Douall Stuart.*

196. **A. venulosa,** *Benth. in Hook. Lond. Journ.* i. 366. A tall shrub, softly pubescent or glabrous and sometimes slightly viscid; branchlets angular. Phyllodia falcate-oblong or lanceolate, narrowed at each end, mostly 2 to 3 in. long, ¼ to ½ in. broad, very rigid, many-nerved and strongly veined, with about 3 nerves more prominent than the rest. Peduncles in pairs or clusters or on a very short common peduncle, mostly 2 to 4 lines long, rather thick, tomentose, bearing each a globular head of above 20 flowers, mostly 5-merous. Sepals narrow-spathulate, usually united below the middle. Petals smooth. Pod linear, straight or curved, pubescent when young, 1 to 2 in. long, about 3 lines broad; valves convex over the seeds, depressed, but not contracted between them. Seeds ovate, longitudinal, the last 2 or 3 folds of the funicle thickened into a concave or 2-lobed aril under the seed.

N. S. Wales. Liverpool plains, *A. Cunningham;* head of the Gwydir river, *Leichhardt;* New England, *C. Stuart.*

197. **A. cyclopis,** *A. Cunn. in G. Don, Gen. Syst.* ii. 404. A shrub of 6 to 10 ft., usually glabrous, with angular branchlets. Phyllodia narrow-oblong, nearly straight, obtuse, narrowed at the base, 1½ to 3, rarely 4 in. long, rigidly coriaceous, with 3 to 5 nerves, and anastomosing almost longitudinal veins. Peduncles solitary or 2 or 3 in a short raceme, bearing each a dense globular head of numerous flowers, mostly 5-merous. Calyx turbinate, shortly lobed or toothed, more than half as long as the corolla. Petals smooth, free. Pod flat and 4 to 6 lines broad as in *A. melanoxylon*, but more coriaceous, curved or twisted. Seeds nearly orbicular; funicle thickened and richly coloured from the base, encircling the seed in double folds.—Meissn. in Pl. Preiss. i. 18.

W. Australia. King George's Sound, *R. Brown, A. Cunningham, Fraser,* and others, and eastward towards the Great Bight, *Maxwell;* Swan River, *Toward, Drummond, Preiss, n.* 926, and others; Preston river, *Oldfield.*

198. **A. melanoxylon,** *R. Br. in Ait. Hort. Kew. ed.* 3, v. 462. A hard-wooded tree, attaining a very large size, but sometimes flowering when under 20 ft., glabrous or the young shoots minutely pubescent; branchlets angular. Phyllodia falcate-oblong or almost lanceolate, 3 to 4 in. long in the common varieties, ½ to 1 in. broad, obtuse or rarely almost acute, much narrowed towards the base, coriaceous, with several longitudinal nerves and numerous anastomosing veins. Peduncles 3 to 4 lines long, few together in a short raceme or sometimes solitary, bearing each a very dense globular head of 30 to 50 or more flowers, mostly 5-merous and often so closely packed in the

head that the calyxes cohere. Calyx more than half as long as the corolla, thin and shortly toothed. Petals connate above the middle. Pod elongated, flat, often curved into a circle, 3 to 4 lines broad, with thickened nerve-like margins. Seeds nearly orbicular; funicle very long, dilated and coloured from the base, very flexuose, more or less encircling the seed in double folds. —Wendl. Comm. Acac. 24, t. 6; DC. Prod. ii. 452; Bot. Mag. t. 1659; Lodd. Bot. Cab. t. 630; Hook. f. Fl. Tasm. i. 109; F. Muell. Pl. Vict. ii. 28; *A. arcuata*, Sieb. Pl. Exs. and in Spreng. Syst. iii. 135 (by mistake attributed to Labillardière).

N. S. Wales. Port Jackson to the Blue Mountains, *A. Cunningham*, *Sieber*, *n.* 459, *Fl. Mixt.* 593, and others.

Victoria. Rich soil in valleys or grassy ranges throughout the colony, except the desert, ascending to considerable elevations, *F. Mueller.*

Tasmania. Port Dalrymple and Derwent river, *R. Brown;* abundant throughout the island, *J. D. Hooker.*

S. Australia. Encounter Bay, *Whittaker;* St. Vincent's Gulf, *F. Mueller.*

The wood, known to the colonists under the name of *Blackwood*, and the less appropriate one of *Lightwood*, is celebrated for hardness and durability.

A. brevipes, A. Cunn. in Bot. Mag. t. 3358, from the single specimen preserved of the cultivated plant described, appears to be a variety of *A. melanoxylon*, with longer more falcate phyllodia, attaining 5 to 7 in.

199. **A. implexa,** *Benth. in Hook. Lond. Journ.* i. 368. A glabrous tree, sometimes slightly glaucous; branchlets terete or nearly so. Phyllodia lanceolate-falcate, more acuminate, more narrowed at the base and thinner than in *A. melanoxylon*, mostly 5 or 6 in. long or more, with several slender longitudinal nerves and fine veins. Peduncles few, in a very short raceme, more slender than in *A. melanoxylon*, bearing each a small dense head of numerous flowers, mostly 5-merous. Calyx scarcely half as long as the corolla, turbinate. Petals smooth, united to the middle. Pod narrow-linear, much curved and twisted, 2 or rarely nearly 3 lines broad, contracted between the seeds. Seeds ovate-oblong, longitudinal; funicle dilated and coloured almost from the base, much folded under the seed, but not encircling it.—F. Muell. Pl. Vict. ii. 29.

Queensland. Moreton Bay, Dawson and Burnett rivers, *F. Mueller.*

N. S. Wales. Port Jackson, *R. Brown*, *Woolls;* northward to Clarence river, *C. Moore;* Mount Lindsay, *W. Hill;* southward to Shoalhaven river and Illawarra, *A. Cunningham.*

Victoria. Open river banks and grassy ridges scattered over the colony: Yarra river, Bacchus Marsh; Snowy River, etc., *F. Mueller.*

200. **A. harpophylla,** *F. Muell. Herb.* Probably a tree, glabrous or the young shoots minutely hoary; branchlets slightly angular. Phyllodia falcate-lanceolate, mostly 6 to 8 in. long, narrowed but obtuse at the end, much narrowed at the base, coriaceous, pale or glaucous, with several not very prominent nerves and scarcely veined between them. Peduncles slender, ½ to in. long, clustered or rarely in a very short raceme, bearing each a small globular head of about 12 to 15 mostly 5-merous flowers. Sepals spathulate, not half as long as the corolla, free or slightly connected below the middle. Petals smooth, free. Pod unknown.

Queensland. Rockhampton, *Thozet.*

201. **A. excelsa,** *Benth. in Mitch. Trop. Austr.* 225. A large forest-tree; branchlets slender, terete or nearly so, glabrous or rarely minutely pubescent. Phyllodia oblong-falcate, rather obtuse or mucronulate, narrowed at the base, 2 to 3 in. long, ½ to ¾ in. broad, thinly coriaceous, with 5 to 7 nerves, and smooth or faintly veined between them. Peduncles solitary, in pairs or clusters, sometimes not 2 lines, in other specimens nearly ½ in. long, bearing each a globular head of numerous (20 to 30) flowers, mostly 5-merous. Sepals distinct. Petals smooth. Pod straight, flat, about 3 lines broad, thinly coriaceous, the sutures narrow-edged or almost winged, not usually dehiscent but hardening over the seeds and readily breaking off between them. Seeds ovate, longitudinal; funicle short and filiform, neither folded nor enlarged.—*A. Daintreana,* F. Muell. Fragm. iv. 6.

Queensland. Near Lake Salvator, *Mitchell*; Peak Downs, *F. Mueller*; Clarke river, *Daintree*; also in *Bowman's collection.* Very closely allied to, and perhaps a variety of, *A. laurifolia*, Willd., from New Caledonia and the Pacific islands, differing chiefly in the narrower phyllodia and pods.

202. **A. complanata,** *A. Cunn.*; *Benth. in Hook. Lond. Journ.* i. 369. A tree, glabrous; branchlets flattened, bordered by 2 or rarely 3 acute angles or narrow wings. Phyllodia oval or oblong, obtuse, 2 to 3 in. long, ½ to 1 in. broad, thinly coriaceous, with 5 to 9 or even more longitudinal nerves and a few fine veins between them. Peduncles slender, about ½ in. long, in axillary clusters often of 6 to 8 or more, or by the abortion of the upper phyllodia forming an irregular terminal raceme, bearing each a globular head of numerous flowers, mostly 5-merous. Sepals free, spathulate. Petals smooth, free. Pod curved, acuminate, very flat, 3 to 4 lines broad, the upper suture nerve-like or with a narrow border. Seeds oblong; funicle in the Banksian specimens short and not dilated, but not quite perfect, in F. Mueller's specimens elongated, more or less dilated from near the base, and encircling the seed in a single fold.—*A. anceps*, Hook. Ic. Pl. t. 167, not of DC.

Queensland. Endeavour river, *Banks and Solander*; Wide Bay, *Bidwill*, *Moore*; Dumaresq river, *A. Cunningham*; Brisbane river, *Fraser*, *F. Mueller*, and others.
N. S. Wales. Clarence river, *Beckler.*

G. DIMIDIATÆ.—Phyllodia usually broad and often long, falcate or very oblique, with 2 or 3 prominent distant nerves and reticulately penniveined between them. Stipules minute or none.

These correspond with the subseries *Dimidiatæ* of *Julifloræ*, differing in their capitate inflorescence. The phyllodia are much larger and more oblique than in the *Oligoneuræ*, and the stipules are not spinescent as in *A. urophylla* amongst *Armatæ*, which has sometimes large phyllodia.

203. **A. binervata,** *DC. Prod.* ii. 452. A tall shrub or a tree, attaining sometimes 30 to 40 ft., glabrous, with slightly angular branchlets, soon becoming terete. Phyllodia falcate, oblong or lanceolate, narrowed at each end, mostly 3 to 4 in. long, with 2 or 3 longitudinal nerves and pinnately veined between them, the marginal gland below the middle rather conspicuous. Peduncles rather slender, 3 to 8, at first in an axillary raceme, but after flowering the raceme often grows out into a leafy branch with the peduncles at the base, each bearing a globular head of about 20 flowers, mostly 5-merous. Calyx scarcely half as long as the corolla, sinuate-toothed. Pe-

tals smooth. Pod long, flat and very thin, about ½ in. broad. Seeds obovate, longitudinal along the centre of the pod, funicle folded and dilated under the seed but not surrounding it.—*A. umbrosa*, A. Cunn. in G. Don, Gen. Syst. ii. 405; Bot. Mag. t. 3338.

N. S. Wales Port Jackson or Blue Mountains, *Sieber, n.* 504; Nepean and Hastings rivers, *Fraser;* Hastings and Clarence rivers, *Beckler;* Clyde river, *C. Moore;* southward to Illawarra, in shady woods, *A. Cunningham*, *Huegel.* Allied in some respects to *A. penninervis*, differing in the venation of the phyllodia, in the pod and seeds, etc.

A. dineura, F. Muell. in Journ. Linn. Soc. iii. 130, from the Table Land, Upper Roper river, N. Australia, appears to me to be a form of the same species, of a pale hue, with rather less oblique and more obtuse phyllodia. The specimens are small and in fruit only, with the racemes grown out into leafy branches.

Some specimens of Mitchell's have narrow much more coriaceous phyllodia and very small flower-heads, but without the fruit it cannot be determined whether they are a distinct species or not.

204. **A. latescens,** *Benth. in Hook. Lond. Journ.* i. 380. A tall shrub or tree, glabrous, with angular branchlets. Phyllodia lanceolate-falcate, obtuse, much narrowed towards the base, 6 to 8 in. long or even more, with 2 or 3 nerves, and a few reticulate or almost parallel veins between them; marginal glands minute or none. Peduncles slender, ¼ to ½ in. long, in clusters or short axillary racemes, bearing each a small globular head of above 30 flowers, mostly 5-merous. Calyx thin, more than half as long as the corolla, with very short obtuse thickened lobes or teeth. Petals united above the middle, rather thickened at the tips. Pod unknown.

N. Australia. Mayday Island, Van Diemen's Gulf, *A. Cunningham;* Capstan Island, Port Essington, *Armstrong.*

205. **A. sericata,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 380. Pale, with a very minute almost mealy down, or glabrous and glaucous; branchlets terete or nearly so. Phyllodia broadly falcate, obtuse but narrowed at both ends, mostly 3 to 4 in. long, 1 to 1½ in. broad in the middle, or on barren shoots much longer and narrower, with 3 or 4 principal nerves, of which 1 or 2 confluent with the lower margin of the base, transversely reticulate between them, the outer or upper margin often sinuate. Flowers not seen. Pod very flat, glaucous, 3 to 5 in. long, 1 to 1½ in. broad, sutures bordered with a narrow edge; valves coriaceous, hard when ripe, with raised reticulations. Seeds transverse, not seen perfect.—*A. platycarpa*, F. Muell. in Journ. Linn. Soc. iii. 145.

N. Australia. Montagu and York Sounds, N.W. coast, *A. Cunningham* (foliage with the valves of a ripe fruit); Victoria river (foliage only) and Gulf of Carpentaria (specimens with unripe fruits), *F. Mueller.*

206. **A. flavescens,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 381. Young shoots clothed with a hoary or yellowish almost fleecy tomentum, soon wearing off; branchlets angular. Phyllodia broadly falcate, acuminate, cuneate at the base, 4 to 8 in. long, 1 to 2 or even 3 in. broad, with usually 3 nerves, the lowest carried on to a terminal gland, the 2 others ending in small glands on the upper margin, veins transversely reticulate between them. Flowers in small globular heads, on short peduncles in an irregular terminal panicle, and apparently 5-merous, with narrow sepals, but very imperfect in our specimens. Pod straight or curved, very flat, 3 to 5 in. long, ¾ in. broad,

coriaceous, reticulate, with slightly thickened margins. Seeds transverse; funicle forming short slightly thickened folds under the seed, but not seen quite ripe.

Queensland. Sandy Cape, Broad Sound, Northumberland Islands, *R. Brown*; Percy Islands, *A. Cunningham*; sandstone ridges of Kongili, *Leichhardt.*

207. **A. retivenia,** *F. Muell. Fragm.* iii. 128. Densely clothed with a whitish woolly almost fleecy or velvety tomentum. Phyllodia obliquely obovate or orbicular, very obtuse, 1½ to 2 in. long, thick and soft, with about 4 prominent nerves and transverse reticulations. Upper phyllodia (in the only 2 branchlets seen) very much reduced, with dense globular flower-heads in their axils, on short thick tomentose peduncles. Flowers numerous, 5-merous, the buds shorter than the acute bracts, but not seen full-grown. Calyx thin, shortly lobed and ciliate. Pod unknown.

N. Australia. Short's Range, *M'Douall Stuart.*

SERIES VIII. JULIFLORÆ.—Phyllodia vertically flattened or, in a few species, terete, articulate on the stem, several-nerved or rarely 1-nerved, obtuse acute or pointed, rarely slightly pungent. Flowers in cylindrical dense or interrupted spikes, rarely, when sessile, shortly oblong.

I have united under this series all the spicate phyllodineous Acacias except *A. tripteris*, which has decurrent phyllodia continuous with the stem, and a few short narrow rigid-leaved *Pungentes*, which appeared to have no immediate affinity with the great mass of spicate species. Many of these are particularly difficult to distinguish without the fruit, and although I have passed over as doubtful numerous specimens which I had in flower only, there are still several of which I do not feel quite certain of having correctly matched the flowers and fruits.

A. RIGIDULÆ.—Phyllodia flat, often short, straight oblique or shortly falcate. Spikes dense, except in *A. megalantha*. Flowers mostly 5-merous.

The species here collected differ generally from the following subseries in their 5-merous flowers, and from the *Falcatæ* in their shorter, more coriaceous, obtuse, usually straight or undulate phyllodia, but some species almost pass into the latter subseries. The species are all tropical, except the last two of the subseries.

208. **A. amentifera,** *F. Muell. in Journ. Linn. Soc.* iii. 141. Apparently diffuse, glabrous and perhaps resinous; branches angular-striate. Phyllodia often clustered, obliquely oblong, incurved, obtuse or recurved at the end, 2 to 4 lines long, coriaceous, nerveless or very obscurely 2-nerved. Spikes sessile, oblong-cylindrical, rarely as long as the phyllodia, with numerous closely-packed flowers, mostly 5-merous. Bracts acuminate, exceeding the flowers. Sepals free, narrow-linear, more than half as long as the corolla. Petals smooth, free or readily separating. Stamens few (about 20). Pod unknown.

N. Australia. Upper Victoria river, *F. Mueller.*

209. **A. Wickhami,** *Benth. in Hook. Lond. Journ.* i. 379. A glabrous shrub, often very glaucous or resinous; branchlets angular-striate. Phyllodia numerous, obliquely ovate or falcate-oblong, obtuse with a small oblique glandular point, rarely exceeding ½ in., coriaceous, undulate, with several nerves all very faint or 1 or 3 more prominent. Spikes pedunculate, ½ to ¾ or rarely 1 in. long, densely cylindrical. Flowers mostly 5-merous. Calyx

thin, broadly sinuate-toothed, fully half as long as the corolla. Petals united below the middle, the midribs prominent. Pod flat, but thick and woody, obliquely veined, about 2 in. long, 2 lines broad above the middle, gradually tapering to the base. Seeds oblique, oblong; funicle straight, gradually thickened from the base into a narrow-turbinate aril, scarcely folded towards the end.

N. Australia. Swan Bay, N.W. coast, *Voyage of the Beagle*; table land between Victoria river and Sturt's Creek, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*, and adjoining mainland, *F. Mueller*. The more or less prominent nerves, the glaucous hue or resinous exudations, vary in different parts of the same specimen.

210. **A. lysiphlœa,** *F. Muell. in Journ. Linn. Soc.* iii. 137. A rigid shrub of several feet or small tree, glabrous or nearly so, often very resinous. Phyllodia rather crowded, erect, obliquely linear-oblong, linear or oblanceolate, mostly obtuse but with a short rigid straight or oblique point, narrowed at the base, ½ to 1 in. long, thick and rigid, with 3 to 5 obscure or more or less prominent nerves. Spikes pedunculate, ¾ to 1 in. long, slender but dense. Flowers mostly 5-merous. Sepals very short, thin, shortly united at the base. Petals shortly united, the midribs prominent. Pod flat, oblique or falcate, 1 to 2 in. long, ¼ to ½ in. broad, hard and almost woody, reticulate and resinous. Seeds ovate, oblique; funicle shortly folded and thickened into a small aril under the base of the seed.

N. Australia. Hooker's and Sturt's Creeks, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; sandy plains and valleys of the adjoining mainland, *F. Mueller*. Some of the narrow-leaved specimens have some resemblance to *A. linarioides*, but the fruit is very different.

211. **A. linarioides,** *Benth. in Hook. Lond. Journ.* i. 371. Glabrous or slightly pubescent and viscid, with terete branchlets. Phyllodia rather crowded, linear, obtuse with a small rigid but not pungent point, ¾ to 1½ in. long, not above 1 line broad, obscurely 1-nerved. Spikes slender but rather dense, shortly pedunculate and exceeding the phyllodia. Flowers mostly 5-merous. Sepals small, thin, free or slightly connate at the base. Petals connate to the middle, with thickened tips. Pod linear, slightly curved, 1½ lines broad at the seeds and contracted between them, the valves convex, rigid, obscurely striate, with thickened nerve-like margins. Seeds oblong, longitudinal; funicle with the last 2 or 3 folds thickened into an irregularly cup-shaped aril under the seed.

N. Australia. Cavern Island, Gulf of Carpentaria, *R. Brown*. This species has the small 5-merous flowers and nearly the phyllodia of *A. lysiphlœa*, with the pod more allied to that of *A. longifolia* and its allies, but more rigid.

212. **A. stipuligera,** *F. Muell. in Journ. Linn. Soc.* iii. 144. Softly tomentose or pubescent; branchlets nearly terete. Phyllodia obliquely falcate, oblong or lanceolate, shortly narrowed at each end, with a small callous or hooked point, 1 to 2 in. long, 3 to 7 lines broad, coriaceous, with 2, 3, or 4 very prominent nerves and nerve-like margins and numerous anastomosing more or less longitudinal veins, the principal nerves often scabrous with resinous exudations. Stipules brown, small, but more conspicuous than in any other *Julifloræ* except *A. conspersa*. Spikes nearly sessile, solitary or in pairs, 1 to nearly 2 in. long, dense and tomentose. Flowers mostly 5-merous. Calyx

half as long as the corolla, thin with spathulate lobes, readily separating into distinct sepals. Petals united to the middle, tomentose. Pod (only seen one loose one) long, linear, slightly twisted, not 1½ lines broad, coriaceous, with nerve-like margins.

N. Australia. Sources of the Victoria river, *F. Mueller;* in the interior, lat. 18°, "Scrub-Wattle," *M'Douall Stuart.*

213. **A. ptychophylla,** *F. Muell. in Journ. Linn. Soc.* iii. 142. Very resinous, otherwise glabrous; branchlets slightly angular. Phyllodia obliquely oblong, very obtuse, with a small terminal gland or callous point, 1 to 1½ in. long, 2 to 3 lines broad, shortly narrowed at the base, rigidly coriaceous, with 5 to 9 prominent parallel nerves without conspicuous intervening veins. Spikes shortly pedunculate, very dense, 1 in. long or rather more. Flowers mostly 5-merous. Calyx thin, more or less deeply lobed. Petals united to the middle, with prominent midribs. Pod unknown.

N. Australia. Sturt's Creek, *F. Mueller.*

214. **A. stigmatophylla,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 377. Glabrous or scarcely hoary-pubescent when young; branchlets rather slender, acutely angled or compressed when young, soon becoming terete. Phyllodia obliquely narrow-oblong or slightly falcate, narrowed at each end, tipped with a prominent nerve or broad callous point, 1½ to 3 in. long, 3 to 4 lines broad, undulate, coriaceous, with 3 to 5 fine but prominent nerves and very fine (sometimes obscure), longitudinal, more or less anastomosing, closely-packed veins between them. Spikes shortly pedunculate, ½ to ¾ or at length 1 in. long, slender, often clustered in the upper axils, forming a terminal leafy panicle. Flowers small, mostly 5-merous. Calyx loosely campanulate, sinuate-toothed, slightly ciliate, half as long as the corolla. Petals with prominent midribs, giving the buds a strongly striate appearance. Pod unknown.

N. Australia. Brunswick Bay, N.W. coast, *A. Cunningham;* Victoria river, *F. Mueller.*

215. **A. umbellata,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 378. A tall shrub, young shoots slightly hoary or silky but soon glabrous; branchlets nearly terete. Phyllodia from oblong and scarcely falcate to obliquely oblong-rhomboidal or broadly falcate, obtuse with a broadly callous or glandular tip, 2 to 4 in. long, ¾ to 1½ in. broad, very coriaceous, with numerous parallel nerves or veins, 5 to 9 more prominent and some of them confluent with the lower margin at the base, the others closely packed, fine and rarely anastomosing. Spikes sessile or nearly so, often clustered, rather dense, 1 to 1½ in. long. Flowers mostly 5-merous but sometimes 4-merous. Calyx pubescent, sinuate-toothed or shortly lobed. Petals with prominent midribs. Pod falcate or nearly straight, almost terete, with convex and coriaceous valves, as in *A. tumida.* Seeds ovate, oblique; funicle short, dilated into a small aril of 2 or 3 folds under the seed.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown;* Cleveland Bay and Cape Flinders, *A. Cunningham;* Seven-Emu, and Robinson rivers, *F. Mueller,* probably also Depot Creek, *F. Mueller* (specimens in flower only). Allied in foliage to *A. stigmatophylla,* in fruit to *A. tumida.*

216. **A. leptophleba,** *F. Muell. in Journ. Linn. Soc.* iii. 143. Nearly glabrous and probably resinous; branchlets slightly angular. Phyllodia obliquely oblong-falcate, obtuse with an oblique callous or glandular point, narrowed at the base, 2 to 2½ in. long, about ½ in. broad in our specimens, coriaceous, undulate, with 3 or more slightly prominent nerves and thickened nerve-like margins, the intermediate fine veins more or less anastomosing, almost reduced to closely packed longitudinal parallel veins. Spikes pedunculate, solitary or in pairs, 1 to 1½ in. long. Flowers dense, mostly 5-merous. Calyx fully half as long as the corolla, thin, deeply lobed or divided to the base into narrow sepals. Petals thin, the midribs much less prominent than in *A. stigmatophylla.* Pod unknown.

N. Australia. Sturt's Creek, *F. Mueller.* I had, in the above quoted paper, referred these specimens to *A. aulacocarpa*, but having now been able to match much more accurately the flowering and fruiting specimens of that species, I find I was in error. The present species is much nearer to *A. stigmatophylla*, from which, in the absence of the fruit, it is distinguished by the more coriaceous phyllodia, larger flowers, deeply lobed calyx, and smoother petals.

217. **A. limbata,** *F. Muell. in Journ. Linn. Soc.* iii. 145. Branches glabrous, very acutely 2- or 3-angled and glaucous, as in *A. latifolia*, but not nearly so broad. Phyllodia oblong, falcate, obtuse or with a hooked callous point, 2 to 3 in. long, ½ to ¾ in. broad, thickly coriaceous, with several nerves, of which the lower ones are confluent with the lower margin at the base, the smaller veins reticulate but longitudinal. Flowers not seen. Fruiting spikes pedunculate. Pod flat, hard and thin, with thickened margins and obliquely veined, as in *A. aulacocarpa* and its allies, but very glabrous and smooth, obtuse, 1½ to 2 in. long, 4 lines broad in the middle and tapering to the base, but not seen quite ripe.

N. Australia, *F. Mueller.*

218. **A. brevifolia,** *Benth.* Glabrous and somewhat glaucous, with angular branchlets. Phyllodia obliquely oblong, somewhat falcate, very obtuse with a small callous point, narrowed at the base, 1½ to 2 in. long, ½ to ¾ in. broad, very coriaceous with several prominent nerves, the intermediate veins irregularly reticulate or longitudinal. Spikes short, oblong-cylindrical, pedunculate. Flowers mostly 5-merous. Calyx short, sinuate-toothed. Petals smooth. Pod flat, thick, almost woody, with oblique veins and thickened margins, very obtuse, 1½ in. long, nearly 4 lines broad, abruptly contracted below the middle into a broad stipes. Seeds oblique, but not seen ripe.—*A. leptophleba* (referred by me to *A. aulacocarpa*), var. *brevifolia*, F. Muell. in Journ. Linn. Soc. iii. 144.

Queensland. Desert of the Suttor, *F. Mueller.* Allied to *A. leptophleba* and *A. limbata*, but differing in flower from the former and in fruit from the latter, and the venation of the phyllodia does not agree with either.

219. **A. megalantha,** *F. Muell. in Journ. Linn. Soc.* iii. 143. Glabrous, with compressed but not angular branchlets. Phyllodia broadly semiovate or lanceolate-falcate, obtuse, narrowed towards the base, 2 to 4 in. long, ¾ to 1 in. wide, rather thick, coriaceous with 3 to 7 prominent nerves, and more or less distinct parallel veins between them. Spikes pedunculate, solitary or in pairs, 1 to 1½ in. long, with a stout rhachis. Flowers distinct or distant,

larger than in any other *Acacia*, the oblong buds 2 lines long before expanding, mostly 5-merous. Calyx shortly campanulate, toothed. Petals united at the base but readily separating, smooth, with thickened hood-shaped tips and inflexed points. Pod unknown.

N. Australia. Sturt's Creek, *F. Mueller.*

220. **A. gonoclada,** *F. Muell. in Journ. Linn. Soc.* iii. 140. Glabrous and glaucous, branchlets stout, with 2 or 3 much raised acute angles. Phyllodia lanceolate-oblong, slightly falcate, obtuse with oblique glandular tips, obliquely narrowed towards the base, 3 to 4 in. long, 4 to 8 lines broad, coriaceous, with 2 or 3 more prominent nerves almost confluent with the lower edge near the base, and numerous fine parallel veins scarcely anastomosing and not very closely packed. Spikes shortly pedunculate, oblong-cylindrical, dense, about ½ in. long. Flowers mostly 5-merous. Calyx half as long as the corolla, shortly toothed. Petals distinct, smooth, without prominent midrids. Pod narrow-linear, straight, 1 to 1½ in. long, 1½ lines broad, thin and flat with nerve-like margins. Seeds longitudinal; funicle dilated and folded under the seed, but not ripe in our specimens.

N. Australia. Victoria river, *F. Mueller.* Allied in some respects to *A. Cunninghamii*, but with the straighter more coriaceous phyllodia of the preceding species.

221. **A. pycnostachya,** *F. Muell. Pl. Vict.* ii. 33. An erect shrub, glabrous and sometimes glaucous; branchlets stout with acutely raised angles. Phyllodia oblong-lanceolate, oblique, straight or slightly falcate, obtuse or with a recurved callous tip, mostly about 3 in. rarely 4 in. long, ½ to ¾ in. broad, rigidly coriaceous, with many fine nerves, 3 or 4 rather more prominent, the smaller ones scarcely anastomosing. Spikes sessile, solitary or 2 or 3 together, thickly cylindrical, 1 to 1½ in. long, very dense. Flowers mostly 5-merous. Calyx sinuate-toothed, not half as long as the corolla. Petals united at the base, rather rigid but smooth. Pod narrow-linear, erect, flat with thickened margins and longitudinal seeds, but not seen ripe.

N. S. Wales. New England, near Tenterfield, abundant at an elevation of 1000 to 1500 ft., *C. Stuart.* The foliage is that of some forms of *A. longifolia*, var. *Sophoræ*, but the inflorescence and flowers are quite distinct.

222. **A. subtilinervis,** *F. Muell. Pl. Vict.* ii. 32, *and Fragm.* iv. 8. An erect glabrous shrub, branchlets terete or nearly so and somewhat resinous. Phyllodia lanceolate, narrowed at both ends but not falcate, with a callous often incurved point, 2 to 4 in. long, 3 to 6 lines wide, coriaceous, with a slightly prominent central nerve and several parallel veins, very fine and almost transparent, but neither closely packed nor prominent. Spikes shortly pedunculate, solitary or in pairs, rather dense, ½ in. long or rather more. Flowers mostly 5-merous. Calyx sinuate-toothed, fully half as long as the corolla. Petals with a slightly prominent midrib. Pod unknown.

Victoria. Granite hills about Mount Imlay, *F. Mueller* (a single specimen in Herb. F. Muell.).

B. TETRAMERÆ.—Phyllodia flat, coriaceous or thin, straight or falcate, several-nerved or 1-nerved when very narrow. Spikes often loose. Flowers 4-merous. Seeds longitudinal.

In foliage this subseries connects the *Rigidulæ* with the *Falcatæ*, differing from both in the flowers almost universally 4-merous.

223. **A. cochliocarpa,** *Meissn. in Bot. Zeit.* 1855, 10. Glabrous and very rigid, apparently viscid when young; branchlets slightly angular, soon terete. Phyllodia linear-lanceolate, somewhat falcate, mostly acuminate, but not pungent, narrowed at the base, 2 to 4 in. long, 2 to 4 lines broad, very rigid, with 5 to 7 very prominent nerves, the central one usually thick and the margins often, but not always, much raised. Spikes sessile, solitary or in pairs, ½ to ¾ in. long. Flowers dense, mostly 4-merous. Sepals narrow-spathulate, ciliate, distinct. Petals united at the base. Pod glabrous, spirally twisted into a dense compact cylindrical coil of about 4 lines diameter; valves coriaceous, flat, with thickened margins. Seeds ovate, last 2 or 3 folds of the funicle dilated into an aril nearly as large as the seed, but under it.

W. Australia. Between Moore and Murchison rivers, *Drummond*, *6th Coll. n.* 6, also in the *3rd Coll.*

224. **A. Dallachiana,** *F. Muell. Fragm.* i. 7, *and Pl. Vict.* ii. 32. A tree of 20 to 30 ft., glabrous, with angular usually glaucous branchlets. Phyllodia lanceolate-falcate, obtuse or with a callous point, much and obliquely narrowed towards the base, 3 to 6 in. long, often 1 in. broad in the middle, coriaceous, with 2 to 5 or 6 more or less prominent primary nerves and conspicuously reticulate between them. Spikes usually in pairs, sessile, cylindrical, 1 to 1½ in. long. Bracts peltate, remarkably conspicuous and densely imbricate with the flower buds. Flowers mostly 4-merous. Calyx obtusely toothed, more than half as long as the corolla. Petals smooth, united to the middle, with rather prominent midribs. Pod linear, straight or nearly so, 2 to 2½ lines broad; valves convex over the seeds, flat and narrower between them Seeds ovoid, longitudinal, the last 2 or 3 folds of the funicle much dilated, the last forming a cup-shaped aril under the seed.

Victoria. Between granite blocks on the summits of the Buffalo ranges, at an elevation of 4000 to 4500 ft., *F. Mueller.*

225. **A. alpina,** *F. Muell. Fragm.* iii. 129. A low divaricate glabrous shrub, nearly allied to the var. *Sophoræ* of *A. longifolia*, and included by F. Mueller (Pl. Vict. ii. 31) amongst the varieties of the latter species, but the habit and foliage appear too different to adopt that view in the absence of intermediates. Branchlets acutely angular or flattened. Phyllodia broadly and very obliquely obovate, ¾ to 1½ in. long, very obtuse or rarely with a small oblique point, coriaceous, finely 3- or 4-nerved, with numerous fine reticulations. Spikes very short and few-flowered. Pod narrow. Flowers and fruit otherwise as in *A. longifolia.*

Victoria. Alpine summits of Mount Useful, and northern plateau of Mount Wellington, *F. Mueller.*

226. **A. longifolia,** *Willd. Spec. Pl.* iv. 1052. An erect shrub, sometimes low and bushy, but attaining often a considerable size or growing into a small tree, glabrous or slightly pubescent when young; branchlets angular. Phyllodia from broadly oblong to oblong-lanceolate or linear, very obtuse or almost acuminate, usually narrowed towards the base, with 2 to 5 more or less prominent longitudinal nerves and conspicuously or faintly reticulate between them, varying in length from 2 to 3 in. in some varieties, to 5 or 6 in others. Spikes axillary, loose and interrupted, flowers not imbricate, almost

always 4-merous. Calyx very short, toothed. Petals smooth, united at the base or sometimes quite separating. Pod linear, often several in. long, 2 to 4 lines broad or rarely more; valves coriaceous, convex over the seeds, usually contracted between them. Seeds longitudinal, often distant, funicle not much folded, thickened almost from the base into a turbinate almost cup-shaped aril at the base of the seed, and sometimes nearly as large.—F. Muell. Pl. Vict. ii. 30.

Queensland. Moreton Bay, *A. Cunningham.*

N. S. Wales. Port Jackson and Blue Mountains, *R. Brown*, *Sieber*, and others; northward to Clarence river, *Beckler*; and New England, *C. Stuart*, southward to Twofold Bay, *F. Mueller.*

Victoria. Chiefly in the eastern and southern parts of the colony, *F. Mueller.*

Tasmania. Common in various places throughout the island, *J. D. Hooker.*

S. Australia. Chiefly near the coast, *R. Brown* and others.

Under the name of *A. longifolia*, I have followed F. Mueller in including the following forms, which, different as they generally appear, are connected by such a gradual chain of intermediates that they cannot be separated by any positive characters, excepting perhaps the first which seems to have a much broader pod, but is as yet not sufficiently known.

a. *phlebophylla*, F. Muell. Pl. Vict. ii. 31. Phyllodia resembling those of the var. *Sophoræ*, but more coriaceous, often above 1½ in. broad, very prominently reticulate. Pod nearly ½ in. broad, much flatter and less contracted between the seeds than in the other varieties.—Fissures of granite boulders on Mount Buffalo, Victoria, at an elevation of 3000 to 4000 ft., *F. Mueller.*

b. *Sophoræ*, F. Muell. Pl. Vict. ii. 30. Phyllodia obovate-oblong, very obtuse, coriaceous, about 2 or rarely 3 in. long, ½ to 1 in. broad, smaller veins reticulate. Calyx rather larger than in the other varieties. Pod usually much curved and thick, either slender and narrow, or 3 to 4 lines broad and very thick.—*Mimosa Sophoræ*, Labill. Pl. Nov. Holl. ii. 87, t. 237; *A. Sophoræ*, R. Br. in Ait. Hort. Kew. ed. 3, v. 462; DC. Prod. ii. 454; Lodd. Bot. Cab. t. 1351; Hook. f. Fl. Tasm. i. 110.—Often abundant chiefly on the seacoast, Moreton Bay, N. S. Wales, Victoria, Tasmania, and S. Australia.

c. *typica.* Phyllodia linear-oblong or oblong-lanceolate, mostly obtuse, 4 to 5 in., or occasionally above 6 in. long, coriaceous but often less so than in the last, the reticulate veinlets more or less elongated and parallel. Pod usually long and slender.—*Mimosa longifolia*, Andr. Bot. Rep. t. 207; Vent. Jard. Malm. t. 62; *A. longifolia*, Willd.; DC. Prod. ii. 454; Bot. Reg. t. 362; Bot. Mag. t. 1827, 2166; Lodd. Bot. Cab. t. 678; Paxt. Mag. iv. 197 (very incorrect as to foliage); Maund, Botanist, t. 77; F. Muell. Pl. Vict. ii. 30; *A. obtusifolia*, A. Cunn. in Field, N. S. Wales, 345 (with narrow phyllodia); *A. spathulata*, Tausch, in Flora, 1836, 420; *A. intertexta*, Sieb. in DC. Prod. ii. 454 (with broad phyllodia).—Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 438, 439, 453, *Fl. Mixt. n.* 592, and others; Twofold Bay and E. Gipps' Land, *F. Mueller.*

d. *mucronata*, F. Muell. Pl. Vict. ii. 31. Phyllodia linear-oblong or linear-spathulate, often very narrow, but coriaceous and obtuse, scarcely veined besides the 3 to 5 rather prominent parallel nerves, mostly 1½ to 2½ in. long, 1 to 3 lines broad.—*A. mucronata*, Willd. Enum. Hort. Berol. Suppl. 68 (name only); Wendl. Comm. Acac. 46, t. 12; DC. Prod. ii. 454; Bot. Mag. t. 2747; Hook. f. Fl. Tasm. i. 110; F. Muell. Pl. Vict. ii. 31; *A. dependens*, A. Cunn.; Benth. in Hook. Lond. Journ. i. 372.—Tasmania, *R. Brown*; common throughout the island, *J. D. Hooker*; also in Victoria on sandy heath-ridges near Latrobe river, Corner Inlet, etc., *F. Mueller.*

e. *floribunda*, F. Muell. Pl. Vict. ii. 31. Phyllodia linear or linear-lanceolate, usually narrowed at the end or acute, 3 to 4 or even 5 in. long, less coriaceous than in the preceding forms, the smaller veins less anastomosing and passing into long parallel veins scarcely finer than the principal nerve.—*Mimosa floribunda*, Vent. Choix, t. 13; *A. floribunda*, Willd. Spec. Pl. iv. 1051; DC. Prod. ii. 454; *A. angustifolia*, Lodd. Bot. Cab. t. 763, not of Jacq.; *A. intermedia*, A. Cunn. in Bot. Mag. t. 3203 (with broader phyllodia); *A. decussata*, Ten. Cat. Hort. Neap. 77.—Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 440, and others, northward to New England, *C. Stuart*; Clarence river, *Beckler*; and southward to Tambo river, Victoria, *F. Mueller.*

f. *dissitiflora.* Phyllodia often very long and narrow as in *A. linearis*, but rather more coriaceous, with 1 or 2 nerves parallel to the principal one, and continued nearly the whole length of the leaf, connecting in some measure the var. *mucronata* with *A. linearis.*—*A. dissitiflora*, Benth. in Hook. Lond. Journ. i. 371.—N. coast of Tasmania.

227 **A. linearis,** *Sims, Bot. Mag. t.* 2156. An erect shrub of several ft., glabrous or slightly pubescent when young; branchlets angular. Phyllodia narrow-linear, from 4, 5 or 6 in. long to twice that length, scarcely above 1 line broad, with a prominent longitudinal nerve, and occasionally an additional faint one on each side. Spikes loose and interrupted, slender, 1 to 2 in. long, quite glabrous. Flowers mostly 4-merous. Calyx very short, toothed. Petals smooth, united at the base. Pod linear, nearly straight, several in. long, usually about 2 lines broad. Seeds longitudinal, but not seen perfect.—DC. Prod. ii. 451; Lodd. Bot. Cab. t. 595; Hook. f. Fl. Tasm. i. 109; F. Muell. Pl. Vict. ii. 31; *A. longissima*, Wendl. Comm. Acac. 45. t. 11; Bot. Reg. t. 680.

N. S. Wales. Port Jackson, *R. Brown, Sieber, n.* 451, 456, *and Fl. Mixt.* 596, and others; northward to Hastings river, *Beckler;* Richmond river, *C. Moore.*

Victoria. Wet forest glens and periodically flooded river-banks in the E. part of Gipps' Land, *F. Mueller.*

Tasmania. Circular Head, *Gunn.*

Enumerated by F. Mueller amongst the varieties of *A. longifolia*, and certainly very near the extreme forms of the var. *dissitiflora*, differing chiefly in the long narrow phyllodia, either strictly 1-nerved or with only a faint accessory nerve on each side.

C. Stenophyllæ.—Phyllodia linear-subulate or narrow-linear, straight or slightly curved, terete or flat but thick, rarely under 2 in. long or above 1½ lines broad. Spikes dense or slender, with small 5-merous or, in terete-leaved species, often 4-merous flowers.

Some species of this subseries, with very short spikes, almost pass into the series *Calamiformes*, and one or two of the last species of the subseries, with rather broader phyllodia, are closely connected with the narrower-leaved species of *Falcatæ.*

228. **A, aciphylla,** *Benth. in Linnæa*, xxvi. 627. A glabrous shrub with scarcely angular branchlets, very soon terete. Phyllodia linear-subulate, rigid with a short pungent point, 2 to 4 in. long, terete and minutely striate with very fine parallel nerves scarcely visible without a lens. Spikes sessile, dense, ovoid or oblong, not above 3 lines long. Flowers mostly 5-merous. Calyx turbinate, very shortly lobed, fully half as long as the corolla. Petals readily separating. Pod only seen in a single loose valve about 1 in. long, 1½ lines broad, coriaceous, rather hard, slightly contracted between the seeds, which were evidently longitudinal.—*A. leptoneura*, var. (?) *pungens*, Meissn. in Pl. Preiss. i. 12?

W. Australia, *Drummond, 4th Coll. n.* 14; in the interior, *Preiss, n.* 976 (I have not seen Preiss's specimens).

229. **A. ephedroides,** *Benth. in Hook. Lond. Journ.* i. 370. A shrub, with slender divaricate or flexuose branchlets, glabrous or the young shoots hoary or silky-pubescent. Phyllodia linear-filiform, terete, striate with few nerves, or obtusely 4-gonous, straight or flexuose, with a small straight or hooked point, 2 to 6 in. long. Spikes sessile, dense, ovoid-oblong or shortly cylindrical, scarcely exceeding 3 lines, or rarely 4 lines long. Flowers crowded, mostly 4-merous. Calyx shortly lobed, not half so long as the co-

rolla. Petals smooth except a very prominent midrib, readily separating. Pod very narrow, but not seen ripe.—Meissn. in Pl. Preiss. i. 18; *A. filifolia*, Benth. in Hook. Lond. Journ. i. 369.

W. Australia. Cape Porteraz, *Fraser*; Swan River? and towards Cape Riche, *Drummond, n.* 302, *2nd Coll. n.* 149 *and* 156; *5th Coll. n.* 2; Darling Range, *Preiss, n.* 974.

230. **A. Burkittii,** *F. Muell. Herb.* A glabrous shrub, branchlets slender, nearly terete. Phyllodia linear-subulate, terete or slightly compressed, with a fine usually recurved but not pungent point, 2 to 3 in. long, striate with very fine parallel nerves, the central one scarcely more prominent. Spikes oblong, sessile, solitary or in pairs, 3 to 4 lines long. Flowers mostly 4-merous. Sepals spathulate, above half as long as the corolla, united in a short cup at the base. Petals smooth, rather thick at the tips, but without prominent midribs. Pod unknown.

S. Australia. Lake Gilles in the interior, *Burkitt.* Very near *A. microneura*, but the phyllodia scarcely broader than thick and the calyx different.

231. **A. microneura,** *Meissn. in Pl. Preiss.* i. 19. Young shoots minutely ashy-pubescent, becoming glabrous, branchlets slightly angular or nearly terete. Phyllodia narrow-linear, almost subulate, with a recurved point, 2 to 3 in. long, ½ to 1 line broad, rigid, with numerous parallel nerves, the central one usually more prominent. Spikes solitary or in pairs, sessile, 3 to 4 lines long. Flowers mostly 4-merous. Calyx shortly toothed, not half so long as the corolla. Petals smooth. Pod unknown.

W. Australia. S. interior, *Preiss, n.* 942; *Drummond, 5th Coll. n.* 10. Differs from *A. ephedroides* chiefly in the more flattened phyllodia.

232. **A. cyperophylla,** *F. Muell. Herb.* Tall, with curly bark and dark wood, branchlets terete. Phyllodia linear-subulate with a fine usually curved point, 6 to 10 in. long, terete or very slightly compressed, striate with numerous exceedingly fine parallel nerves only visible under a lens, hoary with a very minute loose pubescence. Spikes sessile or nearly so, oblong, not ½ in. long. Flowers mostly 5-merous or 6-merous. Calyx turbinate, about half as long as the corolla, at first shortly toothed but often dividing nearly to the base. Petals smooth, glabrous. Pod unknown.

Queensland? *Leichhardt.*
S. Australia. Stony ground, Cooper's Creek, *A. C. Gregory.*

233. **A. multispicata,** *Benth.* Young shoots minutely silky-pubescent, otherwise glabrous; branchlets slender, nearly terete, whitish. Phyllodia linear-subulate, with fine usually recurved but not pungent points, 1½ to 2½ in. long, rather rigid, terete, with few prominent parallel nerves and furrows. Spikes sessile, solitary or in pairs, cylindrical, not very dense, ½ to ¾ in. long. Flowers mostly 4-merous. Calyx broad, short, thin, pubescent, shortly lobed. Petals smooth, at length separating. Ovary densely tomentose. Pod unknown.

W. Australia, *J. S. Roe, Drummond*; Hill river, *Oldfield.* Differs from *A. ephedroides* in the prominently few-nerved phyllodia, longer spikes, unribbed petals, etc.

234. **A. pityoides,** *F. Muell. in Journ. Linn. Soc.* iii. 135. Quite glabrous; branchlets slender, terete. Phyllodia linear-subulate, rather rigid but

not pungent, 2 to 4 in. long, slender, terete and almost nerveless, or slightly flattened and striate with very fine nerves, scarcely visible without a lens. Spikes usually in pairs, pedunculate, about ½ in. long, slender but dense. Flowers small, mostly 5-merous. Calyx very thin and transparent, deeply lobed or the sepals quite free but not spathulate, fully two-thirds as long as the corolla. Petals thin, connate to the middle, without prominent midribs. Pod elongated, nearly flat, curved or twisted, 1 to 1½ lines broad, slightly contracted between the seeds; valves thinly coriaceous. Seeds obovate, longitudinal; funicle not seen perfect.

N. Australia. Sturt's Creek and Gilbert river, *F. Mueller.*

Queensland. Ridges of the Suttor, *F. Mueller.*

235. **A. xylocarpa,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 370. A shrub of 2 to 4 ft., glabrous and slightly viscid; branchlets terete. Phyllodia linear-subulate, not pointed, 2 to 4 in. long, rather rigid, terete or rarely flattened to nearly 1 line in breadth, obscurely 1-nerved. Spikes mostly in pairs, shortly pedunculate, slender but closely packed, ½ to ¾ in. long when fully out. Flowers mostly 5-merous. Calyx shortly lobed, about half as long as the corolla. Petals united to the middle, with prominent midribs. Pod nearly terete or slightly flattened, 1½ to 3 in long, shortly acuminate, 3 to 4 lines broad and thick near the end, gradually tapering to the base; valves hard, almost woody, striate lengthwise, opening elastically from the end downwards. Seeds oblique; funicle straight, gradually and slightly thickened from the base upwards.—*A. orthocarpa*, F. Muell. in Journ. Linn. Soc. iii. 136.

N. Australia. Dampier's Archipelago and Water Island, N.W. coast, *A. Cunningham;* Nichol Bay, *F. Gregory's Expedition;* Upper Macarthur river, Gulf of Carpentaria, *F. Mueller.*

Var. (?) *tenuissima.* Phyllodia longer and more slender. Spikes short. Pod unknown. —*A. tenuissima*, F. Muell. in Journ. Linn. Soc. iii. 135.—Sturt's Creek, *F. Mueller.*

236. **A. gonocarpa,** *F. Muell. in Journ. Linn. Soc.* iii. 136. A shrub of 4 or 5 ft., young shoots viscid, with slender flattened or angular branchlets, at length terete. Phyllodia very narrow-linear, but flat, with a small callous or hooked point, mostly 1½ to 2 or rarely 3 in. long, prominently 1-nerved. Spikes shortly pedunculate, solitary or in pairs, ¼ to ½ in. long, very slender, but with numerous closely packed very small flowers, mostly 5-merous. Sepals very narrow, linear, thin and distinct. Petals thin, cohering to the middle. Pod hard and woody, 1½ to 2 in. long, about 3 lines broad; valves opening elastically from the end downwards as in *A. xylocarpa*, but with raised acute longitudinal angles as in *A. tetragonocarpa*. Seeds not seen, the pod obliquely partitioned for their reception as in *A. xylocarpa.*

N. Australia. Arnhem N. Bay, *R. Brown;* rocky shores of the Gulf of Carpentaria, *F. Mueller.*

237. **A. oncinophylla,** *Lindl. Swan Riv. App.* 15. Glabrous or slightly viscid-pubescent; branchlets somewhat angular. Phyllodia linear-subulate, straight or slightly curved, with a straight oblique or hooked point, 3 to 5 in. long, about 1 line broad, flat but thick and rigid, with 3 prominent nerves. Spikes shortly pedunculate, mostly in pairs, very dense, rarely above ½ in. long or in cultivated specimens rather looser and ¾ in. long. Flowers

mostly 5-merous, but occasionally 4-merous or 3-merous. Calyx lobed, sometimes separating into distinct sepals, fully half as long as the corolla. Petals smooth, connate to the middle. Pod (according to Meissner) linear, slightly tortuose, 1 to 1½ in. long, 2 lines broad, flat, shortly villous. Seeds ovate, lenticular, half embraced by the folds of the funicle.—Meissn. in Pl. Preiss. i. 19; Bot. Mag. t. 4353 (the calyx overlooked).

W. Australia. Swan River, *Drummond, 1st Coll. and n.* 137; Darling Range, *Preiss, n.* 914.

238. **A. drepanocarpa,** *F. Muell. in Journ. Linn. Soc.* iii. 137. A glabrous shrub, the young shoots resinous, branchlets slender, slightly angular. Phyllodia narrow-linear, straight or slightly curved, obtuse, narrowed towards the base, 2 to 4 in. long, 1 to 2 lines broad, with a slightly prominent central nerve and 1 or 2 finer veins on each side. Spikes slender, not very dense, ½ to ¾ in. long, shortly pedunculate. Flowers mostly 5-merous. Calyx thin, with narrow lobes, half as long as the corolla. Petals connate to the middle, with prominent midribs as in *A. xylocarpa.* Pod erect, linear, 1½ to 3 in. long, 1½ to 2 lines broad, flat but thick with much raised margins and obliquely veined between them, the almost woody valves rolling back elastically as in *A. gonocarpa.* Seeds oblique; funicle straight, gradually thickened from the base, narrow-turbinate and cup-shaped under the seed.

N. Australia. Rocks of the S.W. shore of the Gulf of Carpentaria, *F. Mueller;* Whitsunday and Palm Islands, *Henne.* Differs from *A. gonocarpa,* as *A. arida* does from *A. xylocarpa,* in its broader and flatter phyllodia.

239. **A. arida,** *Benth. in Hook. Lond. Journ.* i. 370. Glabrous or minutely hoary; branchlets slender, terete or slightly compressed. Phyllodia narrow-linear, obtuse or with a callous point, narrowed at the base, 2 to 4 in. long, 1 to 2 lines broad, flat but thick, obscurely 3-nerved. Spikes shortly pedunculate, solitary or in pairs, slender and compact, ¼ to ½ in. long. Flowers very small, mostly 5-merous. Calyx shortly lobed. Petals smooth, without prominent midribs. Pod thick but flat, nearly 4 in. long, 3 lines broad, narrowed to the base; valves hard, almost woody, rolling back elastically. Seeds not seen, but evidently oblique.

N. Australia. Parched desert shores of Cambridge Gulf, N.W. coast, *A. Cunningham.* Differs from *A. xylocarpa* chiefly in the broader flat phyllodia.

240. **A. aneura,** *F. Muell. in Linnæa,* xxvi. 627, *and Fragm.* iv. 8. Shrubby, often hoary with a very minute pubescence; branchlets terete or nearly so. Phyllodia narrow-linear, obtuse or with a recurved or oblique callous point, usually flat but thick, 1½ to 3 in. long, 1 to 1½ lines broad, but varying from short and narrow-oblong to very narrow and almost terete, without conspicuous nerves, but finely and obscurely striate under a lens. Spikes shortly pedunculate, ⅓ to ¾ in. long. Flowers mostly 5-merous. Sepals very narrow, linear-spathulate. Petals smooth. Pod thin, flat, obliquely oblong, very obtuse, narrowed at the base, 1 to 1½ in. long, about 4 lines broad, the sutures edged with a narrow wing. Seeds ovate, oblique or transverse; funicle with 2 or 3 short folds, expanded into a small membranous aril under the seed.

N. S. Wales. From the Darling to the west frontier, *Victorian Expedition.*

S. Australia. Flinders Range, *F. Mueller*; Lake Gairdner, *Babbage*; in the desert interior, forming the chief ingredient of the Mulga scrub, *M'Douall Stuart.*

Var. (?) *stenocarpa.* Pod narrow, turgid. Seeds longitudinal, with the funicle much more dilated and folded.—Barrier Range, *Victorian Expedition.*

241. **A. brachystachya,** *Benth.* Very near *A. aneura* and perhaps a short-spiked variety, slightly glaucous or hoary, but without visible pubescence. Phyllodia linear-subulate, slightly compressed, rigid but not pungent, very finely striate, with numerous nerves scarcely visible without a lens. Spikes sessile or very shortly pedunculate, ovoid or oblong, 2 to 3 lines long. Flowers mostly 5-merous. Sepals very narrow, linear-spathulate. Petals smooth, often minutely pubescent. Pod unknown.

N. S. Wales. Mutanie Ranges, *Victorian Expedition.*

D. FALCATÆ.—Phyllodia usually long or large, more or less falcate, narrowed at each end, with numerous parallel nerves or veins, either all equal or more frequently 1, 3, or more, prominent and undivided, the smaller ones often more or less anastomosing. Spikes slender, dense or rarely interrupted. Flowers mostly 5-merous.

Some of the shorter-leaved species or specimens of *A. conspersa*, *A. leptostachya*, *A. tumida*, etc., connect this group with the *Rigidulæ*, but the phyllodia are usually less coriaceous, longer or more falcate, with more numerous nerves. Several species with very different pods appear almost identical in foliage and flowers.

242. **A. conspersa,** *F. Muell. in Journ. Linn. Soc.* iii. 110. A shrub of 5 to 10 ft., with loosely pubescent branches and conspicuous though small brown stipules as in *A. stipuligera.* Phyllodia narrow-lanceolate, mostly falcate, narrowed at each end, obtuse or with a small rigid or glandular point, 2 to 3 in. long, 2 to 4 lines broad, coriaceous, often minutely mealy or slightly pubescent, with a prominent central nerve and often 2 less prominent lateral ones, and numerous very fine parallel veins between. Flowers not seen. Pod linear, straight or slightly falcate, about 1½ lines broad, thick but flat until ripe and then the valves slightly convex and hard. Seeds oblong, longitudinal; funicle short, the last 2 folds expanded into an aril under the seed.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; and rocky sandy districts of the adjoining mainland, Upper Roper and Limmen-Bight rivers, *F. Mueller*; Sterculia Creek, *Leichhardt.*

243. **A. doratoxylon,** *A. Cunn. in Field, N. S. Wales,* 345. A tall shrub or small tree, glabrous with an ashy hue; branchlets at first acutely angular, but soon terete. Phyllodia elongated, slightly falcate, shortly acuminate, and often with oblique or recurved points, 4 to 8 in. long, 2, 3, or rarely 4 lines broad, narrowed towards the base, rather thick, with numerous fine parallel nerves, the central one more prominent. Spikes shortly pedunculate, solitary or clustered, rarely 1 in. long, rather dense. Flowers mostly 5-merous. Calyx sinuate-toothed, not half as long as the corolla. Petals with slightly prominent midribs. Pod unknown.

N. Australia? Daly Waters, *M'Douall Stuart.* In leaf only and therefore doubtful.

Queensland. On the Upper Maranoa, *Mitchell*; Moreton Bay, *C. Moore.*

N. S. Wales. Lachlan and Macquarie rivers, the Spear-wood of certain tribes of the interior, *A. Cunningham, Fraser.*

Victoria. Ovens Ranges, *F. Mueller*, specimens in very young bud. F. Mueller, Pl. Vict. ii. 33, describes the flowers as 4-merous or 3-merous; I found them all 5-merous in the spike I soaked, but in that very young state the petals cohere so firmly that it is very difficult to ascertain their number.

244. **A. acuminata,** *Benth. in Hook. Lond. Journ.* i. 373. A tree of 30 to 40 ft., glabrous or the young shoots silky with an almost golden pubescence; branchlets terete or nearly so. Phyllodia long-linear, somewhat falcate, narrowed at each end, from 3 in. long and 2 or 3 lines wide to 10 in. or more long and then rarely above 2 lines wide, striate as in *A. doratoxylon* with numerous fine parallel nerves, the central one more prominent. Spikes nearly sessile, not above 1 in. long. Flowers mostly 5-merous, larger than in *A. doratoxylon.* Calyx longer in proportion and readily separating into distinct sepals. Pod linear, straight or nearly so, 2 to $2\frac{1}{2}$ lines broad, flat or convex over the seeds, somewhat contracted between them. Seeds oblong, longitudinal, the last 2 or 3 folds of the funicle dilated into an aril under the seed.—*A. doratoxylon* and *A. acuminata*, Meissn. in Pl. Preiss. i. 19; *A. Oldfieldii*, F. Muell. Fragm. iv. 7.

W. Australia. From King George's Sound to Swan River and northward to Murchison river, *Baxter, Drummond, 3rd Coll. n.* 99, *4th Coll. n.* 135, *5th Coll. n.* 6, *J. S. Roe, Oldfield, Preiss, n.* 934, 935, and probably 945. Very near *A. doratoxylon* and perhaps a variety, said to be similarly used for making arms, and the wood to smell strongly of raspberry jam.

Var. *latifolia.* Phyllodia sometimes 4 lines wide.—Middle Island, on the S. coast, *Maxwell.*

245. **A. stereophylla,** *Meissn. in Pl. Preiss.* ii. 203. Quite glabrous, even the young shoots, with terete branchlets. Phyllodia linear, often somewhat falcate, with glandular or callous tips, 3 to 5 in. long, $1\frac{1}{2}$ to 3 lines broad, narrowed towards the base, striate with fine parallel nerves as in *A. acuminata*, but thicker and more rigid and the nerves all equal or 1 or 3 rather more conspicuous. Spikes very dense, sessile or shortly pedunculate, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers mostly 5-merous. Sepals linear-spathulate, ciliate, free or slightly cohering. Petals readily separating, smooth, with slightly thickened tips. Pod unknown.

W. Australia, *Drummond, 3rd Coll. n.* 100. This may prove to be a marked variety of *A. acuminata*, if it has the same pod.

246. **A. signata,** *F. Muell. Fragm.* iv. 7. A glabrous straggling shrub of 6 to 8 ft.; branchlets compressed or terete, glaucous. Phyllodia linear-lanceolate, obtuse or with a minute callous point, 2 to 5 in. long in the specimens seen, much narrowed towards the base, rather rigid, striate with numerous fine nerves, 1 or 3 rather more prominent as in the preceding species. Flowers not seen. Fruiting-spike pedunculate. Pod shortly stipitate, linear-falcate, flat, coriaceous, with thickened margins, about 3 in. long and nearly 3 lines broad, not contracted between the seeds. Seeds ovate, longitudinal or somewhat oblique; funicle dilated from the base, forming an aril of 2 or 3 folds under the seed.

W. Australia. Murchison river, *Oldfield.* Foliage of *A. acuminata*, but the fruit different.

247. **A. delibrata,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 374.

Branchlets slender, slightly angular, silky-pubescent when young. Phyllodia linear-lanceolate, falcate, narrowed at both ends, 4 to 6 in. long, 2 to 5 lines broad in the middle, rather thin, sprinkled with loose silky hairs, with about 3 fine but prominent nerves, and finer less conspicuous and not very numerous longitudinal veins between them occasionally anastomosing. Flowers not seen. Fruiting-spikes with a rhachis of 1 to 1½ in. Pod elongated, straight, flat with thickened margins, about 3 lines broad, the coriaceous valves rather convex over the seeds, narrowed between them. Seeds not seen, but probably longitudinal.

N. Australia. York Sound and Port Warrender, N.W. coast, *A. Cunningham.* The specimens are very imperfect, but do not match with any other we have. The fruit is nearly that of *A. torulosa*, but very much flatter and the phyllodia much thinner, etc. The bark of the old branches appears to peel off in shreds.

248. **A. oligoneura,** *F. Muell. in Journ. Linn. Soc.* iii. 139. Glabrous with angular branchlets. Phyllodia narrow-lanceolate, falcate, narrowed at both ends, 4 to 6 in. long, ½ to ¾ in. broad, with about 3 prominent nerves, a very few longitudinal less conspicuous ones, and the smaller veins more or less reticulate. Spikes pedunculate, in pairs clusters or short racemes, slender but rather dense, about ½ in. long. Flowers very small, mostly 5-merous. Calyx short, sinuate-toothed. Pod not seen.

N. Australia. Victoria river and Macadam Range, *F. Mueller.* Possibly the same as *A. delibrata.*

249. **A. torulosa,** *Benth. in Journ. Linn. Soc.* iii. 139. A tall shrub or small tree, glabrous, with angular branchlets. Phyllodia linear-lanceolate, falcate, with an oblique glandular point, narrowed towards the base, 4 to 8 in. long, 3 to 4 lines wide, coriaceous, with 3 to 5 prominent nerves and numerous very fine parallel ones between them. Spikes solitary or in pairs or threes, very shortly pedunculate, ½ to ¾ in. long, slender but rather dense. Flowers small, mostly 5-merous. Sepals narrow-linear, spathulate, ciliate, free or slightly united at the base. Petals united to the middle. Pod long, remarkably moniliferous, the valves thickly coriaceous, convex, oblong, and about 3 lines broad over the seeds, much contracted between them. Seeds oblong, longitudinal; funicle short, the last fold expanded into a small obliquely cup shaped aril under the seed.

N. Australia. Sandy banks of Roper and Nicholson rivers, Gulf of Carpentaria, *F. Mueller.*

Queensland. Dayman's Island, Endeavour Straits, *W. Hill.*

Scarcely to be distinguished from *A. julifera, A. plectocarpa,* and some others, except by the fruit.

250. **A. julifera,** *Benth. in Hook. Lond. Journ.* i. 374. A tall shrub or tree, usually glabrous except the inflorescence; branchlets slender, angular when young but soon terete. Phyllodia narrow-lanceolate, falcate, narrowed at both ends, 4 to 6 in. long, ¼ to ½ in. broad, coriaceous, with 1 to 3 fine nerves and the nerve-like margins rather more prominent than the numerous fine veins between them. Spikes dense, shortly pedunculate, 1 to 1½ in. long, solitary or 2 or 3 together on a short common peduncle. Flowers mostly 5-merous. Calyx short, more or less lobed, pubescent, woolly or rarely almost glabrous. Pod long, 1½ to 2 lines broad, spirally twisted into numerous

coils either loose and irregular or closely packed into a short cylinder; valves flat or slightly convex. Seeds longitudinal; funicle slightly thickened from the base, at first straight, forming 2 or 3 more dilated folds under the seed.

Queensland. Cumberland Islands, *R. Brown;* Rodd's Bay, *A. Cunningham;* Rockingham Bay, *W. Hill;* Edgecombe Bay, *Dallachy.* Very difficult, without the pod, to distinguish from *A. doratoxylon* and *A. plectocarpa.* Phyllodia more falcate than in the former. Branchlets much less angular than in the latter.

251. **A. Solandri,** *Benth.* A tall shrub or tree, glabrous or the young shoots slightly silky; branchlets nearly terete. Phyllodia as in *A. julifera,* narrow-lanceolate, falcate, 4 to 6 in. long, 3 to 4 lines broad, with 1 to 3 slightly prominent and numerous very fine parallel nerves. Spikes 2 to 3 in. long, slender, interrupted and glabrous or nearly so. Flowers distant as in *A. linearis,* but much smaller and all or mostly 5-merous. Calyx short and truncate. Petals smooth. Pod unknown.

Queensland. Bay of Inlets, *Banks and Solander* (*Herb. R. Br.*), and possibly a form with woolly calyxes from the head of Boyd river, *Leichhardt,* the specimens imperfect. I am unable to adopt for this species Solander's ms. name of *salicifolia,* as there already exist an *A. saligna* and an *A. salicina.*

252? **A. leptostachya,** *Benth.* Hoary or silvery white with a very minute pubescence or nearly glabrous; branchlets slender, slightly angular. Phyllodia linear or lanceolate mostly falcate, narrowed at each end but obtuse, 1 to 2 or rarely 3 in. long, 1 to 5 lines broad, straight or slightly oblique at the base, coriaceous and finely striate with numerous nerves all equal or 2 or 3 rather more prominent. Spikes mostly in pairs, very shortly pedunculate, slender, ¾ to above 1 in. long, glabrous or nearly so. Flowers usually distant, mostly 5-merous. Calyx short, truncate. Petals smooth, united at the base only. Pod not seen.

Queensland. Newcastle Range, *F. Mueller;* Edgecombe Heights, Port Denison, *Dallachy;* Port Denison, *Fitzalan;* Broad Sound, *Herb. F. Mueller.* Until the fruit is known the affinities of this species must remain uncertain. F. Mueller considers it as a form of *A. glaucescens,* but the phyllodia are quite different, and the specimens have more the aspect of some of the species with transverse seeds.

253. **A. glaucescens,** *Willd. Spec. Pl.* iv. 1052, *and Hort. Berol. t.* 101. A tree attaining 50 ft. or more, the foliage generally ashy or hoary with a very minute close pubescence or the young shoots yellowish; branchlets more slender and much less angular than in *A. Cunninghamii.* Phyllodia oblong-falcate or lanceolate, narrowed at both ends, mostly 4 to 6 in. long, ½ to near 1 in. broad in the middle, coriaceous, striate with numerous very fine nerves, 3 to 5 rather more prominent, the smaller ones occasionally anastomosing, and all free from the lower margin from the base. Spikes nearly sessile or shortly pedunculate, often clustered in the upper axils, 1 to 2 in. long. Flowers distinct or distant, mostly 5-merous but occasionally 4-merous. Calyx short, truncate or sinuate-toothed, pubescent or woolly. Pod (if correctly matched) linear, much twisted or irregularly coiled; valves hard, convex, about 2 lines broad. Seeds longitudinal.—DC. Prod. ii. 454; *Mimosa binervis,* Wendl. Bot. Beob. 56, quoted in Comm. Acac. 53; *A homomalla,* Wendl. Comm. Acac. 19, t. 13 (from the figure and description); DC. Prod. ii. 454; *A. cinerascens,* Sieb. in DC. Prod. ii. 454; Bot. Mag. t. 3174; *A. leucadendron,* A. Cunn.; Benth. in Hook. Lond. Journ. i. 374.

Queensland. Brisbane river, Moreton Bay, *A. Cunningham, F. Mueller*, and others; between the Severn and Condamine rivers, *Leichhardt.*

N. S. Wales. Frequent on Hunter's River, *R. Brown* and others; Nepean river, *A. Cunningham;* Clarence river, *Beckler, C. Moore;* Richmond river, *C. Moore;* Blue Mountains, *Miss Atkinson,* also *Sieber, n.* 418; Bent's Basin, *Woolls.*

254. **A. Cunninghamii,** *Hook. Ic. Pl. t.* 165, *not of Don.* A shrub or small tree of 10 to 20 ft., glabrous or hoary-pubescent; branchlets acutely 3-angled. Phyllodia falcate-oblong or lanceolate, narrowed at both ends, mostly 5 to 6 in. long and 1 to $1\frac{1}{2}$ in. broad, or larger on barren shoots, with numerous parallel veins, 3 to 5 more prominent than the others, and 1 or 2 confluent with the lower margin near the very oblique base. Spikes $1\frac{1}{2}$ to 3 in. long. Flowers mostly 5-merous, often distinct or distant. Calyx short, truncate or sinuate-toothed, usually glabrous. Petals smooth. Pod long, linear, very flexuose or twisted, 1 to 2 lines broad; valves coriaceous, convex. Seeds longitudinal, but not seen ripe.

Queensland. Brisbane river, Moreton Bay, *A. Cunningham, F. Mueller,* and others; sandy forests near Mount Owen, *Mitchell.*

N. S. Wales. Hunter's and Hastings rivers, *A. Cunningham.*

Distinguished from *A. glaucescens* by the very angular branches, the larger phyllodia and their venation.

Var. *longispicata.* Branches stout and still more angular. Phyllodia 6 to 8 in. long, 1 to 2 in. broad. Spikes 3 to 4 in. long.—*A. longispicata,* Benth. in Mitch. Trop. Austr. 298.—Near Mount Pluto and Lake Salvator, *Mitchell.*

255. **A. leptocarpa,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 376. Usually glabrous; branchlets at first slightly angular, but soon terete. Phyllodia falcate-lanceolate, narrowed at each end, 4 to 6 in. long, 4 to 8 lines broad, with 3 or more fine slightly prominent nerves and very fine parallel ones between them, rarely anastomosing, and not nearly so close as in several allied species, the interval between each several times the breadth of the vein. Spikes $1\frac{1}{2}$ to 2 in. long, solitary or in pairs. Flowers mostly 5-merous, usually glabrous, not very close. Calyx short, sinuate-toothed. Petals smooth, united at the base. Pod linear, straight or nearly so, several in. long, $1\frac{1}{2}$ to 2 lines broad; valves coriaceous, convex over the seeds, contracted between them. Seeds longitudinal; funicle with the last 2 or 3 folds dilated into an oblong cup-shaped aril, nearly as long as the seed, but embracing its base only.

Queensland. Cape York, *W. Hill;* Endeavour river and Cape Flinders, *A. Cunningham;* Shoalwater Bay, *R. Brown;* Port Denison, *Fitzalan.*

256. **A. polystachya,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 376. Glabrous, young branches angular, but soon terete. Phyllodia falcate-oblong or lanceolate, narrowed at each end, 6 to 10 in. long, 1 to $1\frac{1}{2}$ in. broad, very oblique at the base, with 3 to 5 prominent nerves, the intermediate ones fine and numerous, but not very closely packed and occasionally anastomosing. Spikes solitary or 2 or 3 together, slender, glabrous, 1 to 2 in. long. Flowers mostly 5-merous, not very close. Calyx sinuate-toothed, not half so long as the corolla. Petals united to the middle. Pod very flexuose, but not spiral, several inches long, 5 to 6 lines broad; valves flat, thinly coriaceous. Seeds longitudinal in the centre of the pod; funicle long, dilated

and coloured, the last 2 folds more than half encircling the seed, the next 2 extending along the other side so as nearly to surround it.

N. Australia. Port Essington, *A. Cunningham;* and probably the same species, in flower only, islands of the Gulf of Carpentaria, *R. Brown.*

Queensland. Port Bowen, *A. Cunningham;* Endeavour river, *W. Hill.*

Very like *A. leptocarpa,* but phyllodia usually larger and the pod and seed different.

257. **A. holcocarpa,** *Benth.* Glabrous; branchlets slender, terete. Phyllodia broadly falcate, narrowed at both ends and very oblique at the base, 4 to 5 or perhaps 6 in. long, ½ to ¾ in. broad, not glaucous, with 2 or 3 fine rather prominent nerves and very numerous very fine, closely packed parallel veins between them. Spikes nearly sessile, about 1 in. long, slender but dense. Flowers mostly 5-merous, but sometimes 4-merous, small. Calyx deeply lobed, pubescent. Pod long and slender, straight or slightly curved, nearly terete, longitudinally sulcate-striate, about 2 lines diameter. Seeds oblong, longitudinal, embedded in what appears to be a dried pulp; funicle short, scarcely folded, dilated into a short more or less oblique aril.

Queensland. Port Bowen and Thirsty Sound, *R. Brown.* Phyllodia precisely like those of *A. crassicarpa,* but the pod very different (*Herb. R. Brown*).

258. **A. plectocarpa,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 375. Glabrous and often somewhat glaucous, with acutely angular branchlets. Phyllodia usually falcate-lanceolate, narrowed at both ends, 4 to 6 in. long, 4 to 8 lines broad, resembling those of *A. julifera,* but varying from 2 or 3 in. long, coriaceous and nearly straight to above 6 in. long, narrow-linear and thin, about 3 nerves fine but more or less prominent, and numerous closely packed very fine parallel veins between them. Spikes slender, not very dense, about 1 in. long, the upper ones often forming a terminal leafy panicle. Flowers small, mostly 5-merous. Calyx short, minutely toothed. Petals smooth. Pod linear, not very long, usually 3 to 4 lines broad, coriaceous, at first flat, with straight slightly thickened margins, but becoming often very much undulate between them, and occasionally varying from under 3 lines broad and quite thin, to almost as broad and thick as in *A. pachycarpa.* Seeds ovate, obliquely transverse, the last 2 or 3 folds of the funicle dilated into an aril under the seed.

N. Australia. Cambridge Gulf and Regent's River, N.W. coast, *A. Cunningham;* islands of the Gulf of Carpentaria, *R. Brown;* Sturt's Creek, Roper, Seven-Emu, and Fitzmaurice rivers, *F. Mueller.*

259. **A. pachycarpa,** *F. Muell. in Journ. Linn. Soc.* iii. 139. A tall shrub or tree, glabrous and somewhat resinous, or the foliage glaucous with a minute pubescence; branchlets slender, scarcely angular. Phyllodia linear-lanceolate or linear, slightly falcate, narrowed at both ends, 3 to 10 in. long or even more, 2 to 4 lines broad, coriaceous, apparently almost nerveless, but with numerous very fine parallel veins seen under a lens, and sometimes 1 to 3 more conspicuous nerves. Spikes solitary or in pairs, pedunculate, rather slender but very dense, about ½ in. long. Flowers small, mostly 5-merous. Calyx short, sinuate-toothed. Petals rather thick, united at the base. Pod straight and undulate as in *A. plectocarpa,* but thinly coriaceous, about 4 lines broad. Seeds orbicular, obliquely transverse; funicle slightly folded and dilated into a small narrow-oblong obliquely lateral aril.

N. Australia. Sturt's Creek, *F. Mueller.* I had, in the above-quoted paper, referred this plant with doubt to *A. doratoxylon*, of which it has the foliage and of which the fruit is unknown, but I now think it more probable that the latter has the pod of *A. acuminata*, and that this one is quite distinct, being closely allied to *A. plectocarpa.*

260. **A. tumida,** *F. Muell. in Journ. Linn. Soc.* iii. 144. A glabrous tree; branchlets terete or nearly so, often glaucous. Phyllodia falcate-oblong or lanceolate, much narrowed and very oblique at the base, usually 4 to 8 in. long, 1 to 1½ in. broad, with very numerous parallel veins or nerves, 5 to 9 of them more prominent, the others very fine, closely packed and very rarely anastomosing. Spikes slender but dense, solitary or in pairs, the upper ones often paniculate, mostly 1 to 1½ in. long when fully out. Flowers mostly 5-merous. Sepals linear-spathulate, ciliate, shortly connected at the base. Petals smooth. Pod falcate, with very coriaceous convex valves so as to be nearly terete, 1½ to 3 in. long, 3 to 4 lines broad, divided inside between the seeds. Seeds ovate, obliquely transverse, funicle short, the last fold dilated into a small turbinate aril under the seed.

N. Australia. Isle Lacrosse, N.W. coast, *A. Cunningham;* rocky places, Victoria river, Point Pearce, and Sturt's Creek, *F. Mueller;* Attack Creek, *M'Douall Stuart.* The foliage is that of *A. crassicarpa*, with the pod of *A. umbellata.*

261. **A. loxocarpa,** *Benth. in Hook. Lond. Journ.* i. 377. Glabrous and somewhat glaucous, the branchlets scarcely angular. Phyllodia long, lanceolate or linear, much narrowed at the base or at both ends, 3 to 6 in. long, 3 to 5 lines broad, much falcate except when short, with several fine but prominent nerves and numerous closely packed smaller ones between them, rarely anastomosing. Spikes slender but dense. Flowers very small, mostly 5-merous. Calyx thin, sinuate-toothed, half as long as the corolla. Petals smooth. Pod linear-cuneate, nearly 3 lines broad above the middle, tapering gradually to the base; valves flat, hard, obliquely veined, rolling back elastically. Seeds obliquely transverse, very shining; funicle very short, the last fold expanded into an obliquely cup-shaped aril embracing the base of the seed.

N. Australia. S. Goulburn Island, *A. Cunningham.* The pod and seed are nearly those of *A. drepanocarpa*, but the phyllodia are much broader and falcate, with much finer veins.

262. **A. oncinocarpa,** *Benth. in Hook. Lond. Journ.* i. 378. Glabrous, or slightly hoary with a very minute mealy pubescence; branchlets terete. Phyllodia lanceolate-falcate, rather obtuse, but narrowed at both ends, 4 to 6 in. long, 6 to 8 lines broad, rather thin, with 5 to 7 fine, but rather prominent nerves, the lower ones often confluent with the lower margin of the base, and numerous fine parallel veins between them. Spikes slender, in pairs or clusters, pedunculate, 1 to 1½ in. long. Flowers often distant, small, mostly 5-merous or 6-merous. Calyx thin, loose, sinuate-toothed, more than half as long as the corolla. Petals smooth, united to the middle. Pod flat, but thick, hard and woody, straight except a hooked obtuse point, about 4 lines broad, much narrowed towards the base, obliquely veined. Seeds oblong, obliquely transverse; funicle slightly flexuose, thickened nearly from the base into a narrow-turbinate aril under the seed.

N. Australia. Melville Island, *Herb. Fraser*; Sims' Island, *A. Cunningham.* Near *A. loxocarpa*, with broader phyllodia and remarkable for the hooked pod.

263. **A. retinervis,** *Benth. in Hook. Lond. Journ.* i. 379, partly. Glabrous or slightly hoary, with nearly terete branchlets. Phyllodia falcate-lanceolate, narrowed at both ends, 3 to 6 in. long, 4 to 6 lines broad, with 3 to 7 fine slightly prominent nerves, the intermediate veins longitudinal, very fine, crowded and much anastomosed, forming a dense closely packed network only visible under a lens. Spikes in pairs or clusters, shortly pedunculate, slender but very dense, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers small, mostly 5-merous. Calyx with narrow spathulate ciliate lobes, above half the length of the corolla. Petals united to the middle, with prominent midribs. Pod unknown.

N. Australia. Cape Pond, N.W. coast, *A. Cunningham*. The general aspect is that of several falcate *Julifloræ*, but I cannot match the venation with that of any other species. The fruiting specimens I formerly referred here, have the veins much less anastomosed and belong to *A. tumida.*

264. **A. aulacocarpa,** *A. Cunn.*; *Benth. in Hook. Lond. Journ.* i. 378. Slightly hoary or ashy-glaucous with a minute almost powdery down, which at length disappears; branchlets angular. Phyllodia falcate-lanceolate, narrowed at both ends, 3 to 4 in. long, about $\frac{1}{2}$ in. broad, with a few slightly prominent nerves, the lower ones confluent with the lower margin at the base, and numerous smaller closely packed veins, rarely anastomosing. Spikes slender, loose, 1 to 2 in. long, tomentose-pubescent or glabrous. Flowers mostly 5-merous. Calyx with short broad lobes. Petals united below the middle. Pod falcate-oblong, flat but thick, obtusely recurved at the end, 1 to 2 in. long, $\frac{1}{2}$ to $\frac{3}{4}$ in. broad, much narrowed at the base, hard, obliquely veined. Seeds obliquely transverse, not seen perfect.

Queensland. Port Bowen, *R. Brown*, *A. Cunningham*; Rockhampton, *Dallachy*; Cameron's Brush, *Leichhardt?* (specimen not in fruit).

Var. (?) *macrocarpa.* Pods 3 to 5 in. long, $\frac{3}{4}$ to 1 in. broad, much undulate.—Keppel Bay, Shoalwater Bay, and Broad Sound, *R. Brown.*

265. **A. calyculata,** *A. Cunn.*; *Benth. in Hook. Lond. Journ.* i. 379. Glabrous or ashy-glaucous; branchlets very flat when young, with acute edges. Phyllodia falcate-obtuse, narrowed at the base, 2 to 3 in. long, about $\frac{1}{2}$ in. broad, rather thick, with a few slightly prominent fine nerves and numerous very fine closely packed parallel veins, rarely anastomosing. Spikes mostly clustered, shortly pedunculate, slender, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers very small, mostly 5-merous, probably white (from Solander's ms. name *A. albiflora*). Calyx short, sinuate-toothed, pubescent or villous. Pod falcate-oblong, obtuse, narrowed at the base, flat but thick and hard and obliquely veined, resembling that of *A. aulacocarpa*, but not seen ripe.

Queensland. Endeavour river, *Banks and Solander*; Fitzroy Island, *A. Cunningham.* Pod of *A. aulacocarpa*, with shorter and more obtuse phyllodia, and the branchlets more flattened than in any other *Julifloræ* of the same subseries. The pods in Cunningham's herbarium are not attached, but carefully numbered to prevent their being mismatched.

266. **A. crassicarpa,** *A. Cunn.*; *Benth. in Hook. Lond. Journ.* i. 379. A handsome tree of 30 to 40 ft. or more, glabrous and somewhat glaucous or hoary with a minute powdery pubescence. Branchlets scarcely angular. Phyllodia falcate-oblong, narrowed at both ends, 5 to 8 in. long, 1 to 2 in. broad, very oblique, some of the principal nerves confluent with the lower margin at the base, and numerous fine parallel veins between them, very

rarely or not at all anastomosing. Spikes solitary or clustered, slender, not very dense, 1 in. long or rather more. Flowers mostly 5-merous. Calyx thin, sinuate-toothed, glabrous, about half as long as the corolla. Petals smooth but with the midrib prominent in the bud, united to the middle. Pod oblong, flat, thick, hard, obliquely veined, 2 to 3 in. long, ¾ to nearly 1 in. broad, obliquely truncate at the base, occasionally slightly twisted. Seeds oblique; funicle not seen.

N. Australia. Arnhem S. Bay, *R. Brown;* Goulburn and Sims Islands, *A. Cunningham;* Point Pearce, *F. Mueller;* Port Essington, *Armstrong;* Goold Island, *M'Gillivray;* Sweers Island, *Henne.*

Queensland. Albany Island, *W. Hill.*

267. **A. auriculiformis,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 377. A small tree, glabrous and glaucous, with slightly angular branchlets. Phyllodia falcate-oblong, narrowed at both ends, 5 to 8 in. long, 1 to 2 in. broad, like those of *A. crassicarpa*, but the finer veins less crowded and occasionally anastomosing, the principal nerves, as in that species *A. polystachya* and others, confluent with or near the lower margin at the base. Flowers not seen, unless some of the flowering specimens referred to *A. polystachya* belong to this species. Pod hard, almost woody, as in *A. crassicarpa*, but very much twisted in an irregular spire, with the outer edge often sinuate as in some *Pithecolobiums;* valves obliquely veined, 6 to 8 lines broad.

N. Australia. S. Goulburn Island, *A. Cunningham.*

Queensland. Albany Island, *W. Hill, F. Mueller.*

E. DIMIDIATÆ.—Phyllodia large, broad, very oblique or falcate, with 3 or more distant prominent nerves, more or less confluent at or near the lower margin at the base, pinnately net-veined between them.

The phyllodia are nearly those of the *Plurinerves dimidiatæ*, but usually larger, more oblique and more coriaceous, and the inflorescence always spicate.

268. **A. latifolia,** *Benth. in Hook. Lond. Journ.* i. 382. Glabrous and glaucous; branchlets with 2 or 3 very much raised acute or almost winged angles. Phyllodia obliquely ovate-rhomboid or falcate, 3 to 6 in. long, 1½ to 2 in. broad, with 3 to 5 nerves confluent at the base at or near the lower margin, which is often slightly decurrent, pinnately net-veined between them. Spikes pedunculate, loose, 1 to 2 in. long. Flowers mostly 4-merous. Calyx very short, broad, truncate or obscurely toothed. Petals smooth, above 1 line long, united at the base but readily separating. Pod shortly stipitate, linear, straight or curved, 2 to 4 in. long, nearly 3 lines broad, flat with nerve-like margins, but not seen ripe. Seeds oblong, longitudinal; funicle scarcely folded, thickened into an oblique lateral aril.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown;* Arnhem's Land, *F. Mueller.*

269. **A. holosericea,** *A. Cunn. in G. Don, Gen. Syst.* ii. 407. Hoary or white with a close silky pubescence; branchlets with 3 much raised angles. Phyllodia obliquely oval-oblong, obtuse or mucronate, 4 to 6 in. long, 1 to 3 in. broad, or the lower ones much larger, with 3 or 4 prominent nerves confluent with the lower margin at the base, and pinnately net-veined

between them. Spikes sessile, often 2 in. long or more. Flowers mostly 5-merous. Calyx small, shortly lobed, pubescent. Petals pubescent, united at the base. Pod long-linear, irregularly or spirally twisted, 2 to 2½ lines broad; valves convex. Seeds ovate, longitudinal; funicle folded and dilated into a cup-shaped or turbinate aril at the base.—*A. neurocarpa*, A. Cunn. in Hook. Ic. Pl. t. 168.

N. Australia. Cambridge Gulf, N.W. coast, *A. Cunningham;* Nichol Bay, *F. Gregory's Expedition;* Victoria river, *F. Mueller;* Attack Creek, *M'Douall Stuart;* islands of the Gulf of Carpentaria, *R. Brown.*

Queensland. Endeavour river, *Banks and Solander;* Rockhampton and Port Denison, *Thozet, Dallachy,* and others; Edgecombe Bay, *Dallachy.*

Var. *pubescens,* F. Muell. Everywhere softly pubescent, even the pod.—Victoria river, *F. Mueller.*

270. **A. dimidiata,** *Benth. in Hook. Lond. Journ.* i. 381. Hoary with a minute pubescence or nearly glabrous; branchlets scarcely angular. Phyllodia broadly and obliquely ovate-rhomboid, obliquely truncate at the base, usually 3 to 4 in. long, 2 to 3 in. broad, but on some barren shoots twice or three times that size, with 4 or 5 prominent nerves more or less confluent with the lower margin at the base, and pinnately net-veined between them. Spikes sessile or shortly pedunculate, usually in pairs, 1 to 2 in. long. Flowers mostly 5-merous. Calyx angular, lobed, readily separating into distinct sepals. Petals united below the middle. Pod linear, nearly straight, 2 to 6 in. long, 2 to 3 lines broad; valves coriaceous, very convex. Seeds longitudinal, ovoid-oblong; funicle short, thickened into a turbinate or obliquely cup-shaped aril at the base of the seed.—*A. dolabriformis,* A. Cunn. in Hook. Ic. Pl. t. 169, not of Wendl.

N. Australia. Various parts of the N. coast, *A. Cunningham;* Victoria river and M'Adam Range, *F. Mueller;* Port Essington, *Armstrong,* and probably the same species, in leaf only, islands of the Gulf of Carpentaria, *R. Brown.*

271. **A. humifusa,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 382. Diffuse or prostrate, softly pubescent or tomentose; branchlets nearly terete. Phyllodia broadly and obliquely ovate-rhomboid or almost orbicular, 1½ to 2 in. long and nearly as broad, or in luxuriant shoots nearly twice that size, often undulate, with 3 to 5 nerves more or less confluent with the lower margin at the base, and pinnately reticulate between them. Spikes sessile, oblong, dense, scarcely exceeding ½ in. Flowers mostly 5-merous. Calyx deeply lobed, pubescent. Petals densely pubescent, united at the base. Pod linear, nearly straight, thick, and nearly terete, 1½ to 3 in. long, 2½ to 3 lines broad, coriaceous, pubescent. Seeds oblong, longitudinal; funicle with the last 1 or 2 folds thickened into an obliquely cup-shaped aril at the base of the seed.

N. Australia. Victoria river, *F. Mueller;* islands of the Gulf of Carpentaria, *R. Brown.*

Queensland. Endeavour river, *Banks and Solander;* Cape Cleveland, *A. Cunningham;* Lizard Island, *M'Gillivray;* Albany Island, *W. Hill.*

DIVISION II. *BIPINNATÆ.*

Leaves all bipinnate, most frequently with a depressed or shield-shaped gland on the common petiole near the base, and often smaller glands on the partial

rhachises at or below the last leaflets, and sometimes numerous glands along the whole general and partial rhachises, but the glands often inconstant in the same species.

Series IX. Botryocephalæ.—Unarmed trees or shrubs. Leaves bipinnate. Stipules small or none. Flower-heads globular, in axillary racemes or terminal panicles. Pod (where known) flat. Seeds longitudinal, the last fold of the funicle forming a short lateral or oblique aril, with very small folds below it. The species are all confined to Australia.

272. **A. elata,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 383. A handsome tree of 60 ft. or more, the young shoots often tinged with a golden-yellow pubescence. Pinnæ in 2 to 4 distant pairs, 6 to 8 in. long; leaflets 8 to 12 pairs, lanceolate, acutely acuminate, 1 to 2 in. long, minutely silky; gland wart-like on the petiole, and often small ones at the last pairs of leaflets. Flower-heads globular, in racemes often 6 in. long, the upper ones forming a large terminal panicle, often silky with a golden pubescence. Flowers numerous, mostly 5-merous. Calyx fully half as long as the corolla, obtusely toothed. Petals smooth, united to the middle. Pod 4 to 6 in. long, about ½ in. broad. Seeds nearly lenticular.

N. S. Wales. Grose river, *R. Brown;* shaded ravines of the Blue Mountains, *A. Cunningham, Miss Atkinson,* and others, and southward to Illawarra, *Shepherd.*

273. **A. pruinosa,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 383. Glabrous and glaucous, with terete branchlets. Pinnæ 2 to 4 or rarely 5 pairs, 3 to 4 in. long; leaflets 12 to 20 pairs, oblong or linear, oblique or somewhat falcate, obtuse or scarcely acute, attaining ½ in. or rather more; gland prominent on the petiole at a distance from the lowest pair of pinnæ, and smaller ones under several pairs of leaflets. Flower-heads globular, often numerous in axillary racemes or the upper ones paniculate. Flowers numerous, mostly 5-merous. Calyx obtusely toothed. Pod not seen.—*A. schinoides,* Benth. in Hook. Lond. Journ. i. 383.

N. S. Wales. Near Sydney and Liverpool plains, *A. Cunningham;* New England, *C. Stuart.*

274. **A. spectabilis,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 383. A tall shrub, glabrous and glaucous, or the branchlets and petioles shortly hirsute. Pinnæ 2 to 4 pairs; leaflets 4 to 8 pairs, obovate-oblong, very obtuse, 4 to 6 lines long, rather thick and obscurely veined; gland depressed at the lowest pair of pinnæ, often very obscure. Flower-heads in axillary racemes longer than the leaves, the upper ones often paniculate. Flowers mostly 5-merous. Calyx short, obtusely toothed. Petals united at the base only. Pod 3 to 4 in. long, about ½ in. broad, glaucous. Bot. Reg. 1843, t. 46; *A. chrysobotrys,* Meissn. Ind. Sem. Hort. Basil. 1842, from the character in Walp. Rep. ii. 906.

Queensland. Brisbane river, *A. Cunningham;* between the Severn and Condamine rivers, *Leichhardt;* forest near Harvey's Range and Maranoa river, *Mitchell.*

N. S. Wales. Between Lachlan and Macquarrie rivers and forest land E. and W. of Wellington valley, *A. Cunningham;* New England, *C. Stuart.*

Var. (?) *Stuartii.* Leaflets 10 to 15 pairs and rather narrower, but glands as in *A. spectabilis.*—New England, *C. Stuart;* between Byron plains and the M'Intyre, *Leichhardt.*

275. **A. polybotrya,** *Benth. in Hook. Lond. Journ.* i. 384. A tall shrub, the foliage more or less pubescent. Pinnæ usually 2 or 3 pairs, leaflets 6 to 10 pairs, narrow-oblong, obtuse, 3 to 4 lines long, rather thick with a prominent nerve near the lower edge, the rhachis terminating in a recurved deciduous point; a gland at the base of the petiole, those between the leaflets rare and minute. Flower-heads numerous, small, in racemes much exceeding the leaves, the upper ones forming a terminal panicle. Flowers mostly 5-merous. Calyx short, obtusely lobed. Petals united at the base. Pod unknown.

N. S. Wales. Boggy forest land of the N. W. interior, the most beautiful of all the Acacias, *Fraser;* Gwydir river, *A. Cunningham;* near Wellington, *C. Moore.*

Var. *foliolosa.* Softly pubescent. Pinnæ 4 to 6 pairs, 2 to 3 in. long; leaflets 15 to 25 pairs, 3 to 6 lines long and less obtuse.

Queensland. Burnett river, *F. Mueller;* S. part of the colony, *Bowman;* limestone hills, *Leichhardt;* Ipswich, *Nernst.*

276. **A. discolor,** *Willd. Spec. Pl.* iv. 1068. A tall shrub or tree, branchlets terete or angular, glabrous or pubescent. Pinnæ 2 to 6 pairs, leaflets 10 to 15 pairs, oblong, obtuse or acute, 3 to 4 lines long, rather firm, 1-nerved, glabrous, pale underneath; gland usually large on the petiole and a few small ones at the upper pairs of leaflets. Flower-heads in axillary racemes, the upper racemes forming a terminal panicle; flowers 6 to 15 in the head, rather large, 5-merous. Calyx short, broadly lobed, ciliate. Petals rather rigid, with prominent midribs, striate in the bud. Pod 1 to 3 in. long, 5 to 6 lines broad. Seeds longitudinal; funicle filiform.—*Mimosa discolor,* Andr. Bot. Rep. t. 235; *M. paniculata,* Wendl. Bot. Beob. 57; *M. botrycephala,* Vent. Hort. Cels. t. 1; *Acacia botrycephala,* Desf. Cat. Hort. Par. ed. 3, 300; *A. discolor,* DC. Prod. ii. 468; Bot. Mag. t. 1750; Lodd. Bot. Cab. t. 601; Hook. f. Fl. Tasm. i. 111; F. Muell. Pl. Vict. ii. 34; *A. maritima,* Benth. in Hook. Lond. Journ. i. 384 (with more glabrous and angular branchlets); *A. Sieberiana,* Scheele in Linnæa, xvii. 337.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, Sieber, n.* 454, and others; Macleay river, *Fraser.*

Victoria. Heath ground as well in the lowlands as in the mountains of Gipps' Land, *F. Mueller.*

Tasmania. Port Dalrymple, *R. Brown.* Common near the seacoast in various localities, *J. D. Hooker.*

Var. (?) *angustifolia.* Branches nearly terete, leaflets linear-oblong, slightly falcate and rather more numerous.—Port Jackson, *Caley, R. Brown.*

277. **A. decurrens,** *Willd. Spec. Pl.* iv. 1072. A handsome tree, glabrous or more or less tomentose-pubescent; branches more or less prominently angled, sometimes almost winged. Pinnæ 8 to 15 pairs or sometimes even more, rarely reduced to 5 or 6, leaflets very numerous (30 to 40 pairs or even more), linear, from under 2 lines to nearly 5 lines long, according to the variety. Flower-heads small, globular in axillary racemes, the upper ones forming a terminal panicle. Flowers 20 to 30 in the head, mostly 5-merous. Calyx short, broadly lobed, ciliate. Petals with slightly prominent midribs. Pod usually 3 to 4 in. long, about $\frac{1}{4}$ in. broad or rather more, more or less contracted between the seeds. Seeds ovate.—F. Muell. Pl. Vict. ii. 35.

Queensland. Plains of the Condamine, *Leichhardt;* Moreton Bay, *C. Stuart.*

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 436, 460, and others; northward to Hastings and Clarence rivers, *Beckler*; New England, *C. Stuart*.

Victoria. Frequent along river banks, in valleys, etc., ascending to subalpine elevations, forming the main underwood in Eucalyptus forests, *F. Mueller*.

Tasmania. Abundant throughout the island, *J. D. Hooker*.

S. Australia. Mount Gambier, *F. Mueller*.

Of this, the *Black* or *Green Wattle* of the colonists, the following forms appear at first sight very distinct, but pass into each other by many gradations.

a. *normalis*. Glabrous or the young shoots slightly tomentose-pubescent. Leaflets long and narrow, usually 3 to 4 lines; glands numerous along the primary rhachis.—*Mimosa decurrens*, Wendl. Bot. Beob. 57; Vent. Jard. Malm. t. 61; *A. decurrens*, DC. Prod. ii. 470; *A. angulata*, Desv. Journ. Bot. 1814, ii. 68; DC. Prod. ii. 468; *A. sulcipes*, Sieb. Pl. Exs.; *A. adenophora*, Spreng. Syst. iii. 140.—Chiefly about Port Jackson.

b. *mollis*, Lindl. Bot. Reg. t. 371. Foliage softly tomentose-pubescent, the indumentum assuming a golden-yellow tinge on the young shoots. Leaflets 2 to 3 lines long, obtuse; glands numerous along the primary rhachis.—*A mollissima*, Willd. Enum. 1053; DC. Prod. ii. 470; Sweet, Fl. Austral. t. 12; Hook. f. Fl. Tasm. i. 117.—The only form in Tasmania and the most common one in Victoria; less frequent in the northern districts of N. S. Wales. Some of Beckler's specimens from Warwick have the numerous glands of this form with the very small leaflets of the following.

c. *pauciglandulosa*, F. Muell. Pubescent but not so softly so as in the var. *mollis*, and sometimes almost hirsute, with the same golden-yellow tinge on the young shoots. Leaflets small, often under 2 lines; glands few, often only under the last 1 or 2 pairs of pinnæ.—New England, Clarence and Hastings rivers, Moreton Bay, etc.; also between Archer's and M'Kenzie's stations in moist places, *Leichhardt*.

Var. (?) *Leichhardtii*. More or less hirsute with spreading hairs. Leaflets small, narrow; glands few.—Between Archer's station and Biron and towards the Banya, *Leichhardt*. This seems to connect in some measure *A. decurrens* with *A. pubescens*, but it has the numerous pinnæ of the former.

278. **A. dealbata,** *Link*, *Enum. Hort. Berol.* 445. A handsome tree, closely resembling the var. *mollis* of *A. decurrens*, and to be added perhaps to the varieties of that species as proposed by F. Mueller, but the branches and foliage are very glaucous or hoary with a minute pubescence not assuming a golden tinge on the young shoots. Pinnæ usually 10 to 20 pairs, leaflets 30 to 40 pairs, linear, crowded, 2 to 3 lines long; glands usually numerous. Flower-heads small, in axillary racemes paniculate at the ends of branches, as in *A. decurrens*. Pod broader, not contracted between the seeds and more glaucous.—DC. Prod. ii. 470; Lodd. Bot. Cab. t. 1928; Hook. f. Fl. Tasm. i. 111; *A. irrorata*, Sieb. in Spreng. Syst. iii. 141.

N. S. Wales. Port Jackson or Blue Mountains, *Sieber*, *n.* 446; banks of the Macquarrie, and of all the streams falling westerly into the interior, *A. Cunningham*, *Fraser*, and others.

Victoria. Mostly on river banks or in valleys, flowering usually earlier than *A decurrens*, var. *mollis*, *F. Mueller*.

Tasmania. Port Dalrymple, Derwent river, *R. Brown*; abundant in the island with *A. decurrens*, var. *mollis*, flowering at the same time, but universally distinguished, *J. D. Hooker*.

This, the *Silver Wattle* of the colonists, is unhesitatingly united with *A. decurrens* by F. Mueller; J. D. Hooker considers it as sufficiently distinct, although not easy to characterize from dried specimens. The shape of the pod is different as far as known, but the specimens of the several forms of *A. decurrens*, from many stations, are in flower only.

279. **A. cardiophylla,** *A. Cunn.*; *Benth. in Hook. Lond. Journ.* i. 385. A tall shrub?, pubescent with short rather rigid hairs, branches terete or obscurely angled. Pinnæ 12 to 15 pairs, 3 or 4 lines or the terminal ones

nearly ½ in. long; the common petiole 1 to 2 in.; leaflets 6 to 10 pairs, ovate or almost cordate, ½ to ¾ line long; glands few and minute. Flower-heads small, in axillary racemes, each with above 20 flowers, mostly 5-merous. Calyx turbinate, shortly lobed, ciliate. Petals glabrous, with prominent midribs, but scarcely fully out in the specimens seen. Pod unknown.

N. S. Wales. Eurylean scrub, N. of Macquarrie river, *A. Cunningham.*

280. **A. leptoclada,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 385. A shrub, either glabrous and somewhat glaucous or hispid with scattered short stiff hairs. Pinnæ 3 to 5 pairs, 3 to 4 lines long, on a common petiole of ¼ to ½ in. ending in a recurved point; leaflets 6 to 10 pairs, oblong, coriaceous, ½ to 1½ lines long; glands several, usually small. Flower-heads small, hispid with long bristly hairs proceeding from the bracts and sepals, in racemes longer than the leaves. Flowers numerous, closely packed, the corolla not protruding in the bud, apparently ready to open, but not seen fully out. Sepals distinct, linear-spathulate with concave tips. Petals also free in the bud. Pod unknown.

N. S. Wales. Liverpool plains, *A. Cunningham;* between Wyndham and the M'Intyre, *Leichhardt.*

Var. (?) *polyphylla.* Pinnæ 10 to 12 pairs, leaflets 10 to 20 pairs. Flowers not seen.
Queensland. E. coast, *R. Brown.*

281. **A. pubescens,** *R. Br. in Ait. Hort. Kew. ed.* 3, v. 467. A shrub, the branches petioles and rhachis hirsute with spreading hairs. Pinnæ 3 to 10 pairs ½ to ¾ in. long, the common petiole about the same length; leaflets 6 to 20 pairs, crowded, linear, obtuse, 1 to 2 lines long, glabrous. Flower-heads small, in slender racemes longer than the leaves, and paniculate at the ends of the branches. Flowers not numerous, glabrous. Calyx short, sinuate-toothed. Corolla smooth, protruding in the bud, the petals united.—*Mimosa pubescens,* Vent. Jard. Malm. t. 21; Bot. Mag. t. 1263; *A. pubescens,* DC. Prod. ii. 468; Maund, Botanist, t. 48; Reichb. Ic. et Descr. Pl. t. 73.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, Sieber, n.* 466 and others.

Series X. Pulchellæ.—Trees or shrubs, unarmed or rarely with axillary spines, without scattered prickles or stipular spines. Leaves bipinnate. Stipules small or none. Flowers in globular heads or rarely in cylindrical spikes, on simple solitary or clustered axillary peduncles. Pods flat, straight or falcate. The species are all Australian.

282. **A. pulchella,** *R. Br. in Ait. Hort. Kew. ed.* 3, v. 464. An elegant shrub, the slender branches quite glabrous or more or less hirsute with spreading hairs, and usually armed with subulate axillary spines (abortive branches or peduncles). Pinnæ 1 pair or very rarely a single one, on a common petiole sometimes exceedingly short, sometimes ¼ in. long, the rhachis of the pinnæ usually under ¼ in. rarely ½ to ¾ in. long; leaflets 4 to 7 pairs, obovate-oblong or linear-oblong, obtuse, 1 to 2 lines rarely 3 lines long; gland on a long stipes between the pinnæ or often none. Peduncles axillary, bearing each a globular head of flowers, usually 5-merous. Calyx sinuate-toothed, about half as long as the corolla, often readily separating into distinct sepals. Petals with prominent midribs but not so striate as in *A. strigosa.* Pod flat,

with thickened margins 1 to 2 in. long, 1½ to 2½ lines broad. Seeds longitudinal; funicle thickened into a small club-shaped appressed aril under the seed, with a short filiform fold below it.—DC. Prod. ii. 455; Lodd. Bot. Cab. t. 212; Meissn. in Pl. Preiss. i. 22; Paxt. Mag. iv. 198, with a fig.

W. Australia. Very common from the S. coast to Swan and Murchison rivers, *R. Brown* and others; *Drummond, 1st Coll., n.* 308 to 312, *2nd Coll., n.* 116, 139, 156; *Preiss, n.* 884, 886, 892 to 900, 904, 907, 908, 909, 911, 912, etc. A polymorphous species, especially as to the numbers and size of the leaflets, and hairiness, but generally known by the single pair of pinnæ and the axillary spines, which are rarely entirely wanting, although often some branches are without them. It then resembles some forms of *A. strigosa*, but the pod is quite different. The following have been distinguished as species, but are connected by too many intermediate forms to be separable even as varieties:—1. *A. denudata*, Lehm. Del. Sem. Hort. Hamb.; Meissn. in Pl. Preiss. i. 21, quite glabrous, very spinescent, leaflets usually few; 2. *A. fagonioides*, Benth. in Hook. Lond. Journ. i. 357, glabrous or scarcely pubescent, leaflets few, small broad; 3. *A. grandis*, Henfr. in Gard. Mag., with a fig., copied into Lemaire, Jard. Fleur. t. 154, glabrous with more numerous longer leaflets; 4. *A. hispidissima*, DC. Prod. ii. 455; Bot. Mag. t. 4588, copied into Lemaire, Jard. Fleur. t. 160 (*A. lasiocarpa*, Benth. in Hueg. Enum. 43; Meissn. in Pl. Preiss. i. 22); branches very hirsute with long spreading hairs; leaflets narrow; pod hirsute; 5. *A. cycnorum*, Benth. in Hook. Lond. Journ. i. 388; *A. cygnorum*, Meissn. in Pl. Preiss. i. 22; pubescent or hirsute; leaflets narrow, revolute, often very small; gland generally wanting; pod flexuose, hirsute.

283. **A. Mitchelli,** *Benth. in Hook. Lond. Journ.* i. 387. A shrub of a few ft., the branches not much divided, nearly terete, softly pubescent, unarmed. Pinnæ 2 to 3 pairs, the common petiole and partial rhachises pubescent, each usually under 3 lines, rarely above 4 lines long; leaflets 3 to 6 pairs, oblong, obtuse, 1 to 2 lines long, rather thick. Peduncles slender, as long as the leaves, bearing each a globular head of numerous small flowers, mostly 5-merous. Sepals linear-spathulate, ciliate, free or united at the base. Petals smooth, united to the middle. Pod stipitate, straight or falcate, flat with nerve-like margins, 1 to 2 in. long, 2½ to 3 lines broad. Seeds ovate, longitudinal; funicle dilated into an obliquely-oblong clavate appressed aril, with a short filiform fold below it.—F. Muell. Pl. Vict. ii. 33, t. suppl. 12.

Victoria. Mount Zero, *Mitchell;* sterile ridges, Grampians, mouth of the Glenelg, bushy Iron-bark-tree ridges between Ovens river and May-day hills, *F. Mueller.*

284. **A. pentadenia,** *Lindl. Bot. Reg. t.* 1521. A tall glabrous unarmed shrub; branchlets usually 4-angular. Pinnæ 2 to 5 pairs, 1½ to 3 in. long; leaflets 20 to 30 pairs, very obliquely ovate, broadly oblong or almost rhomboidal, with a broad oblique base, 1, 2, or nearly 3 lines long, the margins usually recurved; glands below all the pairs of pinnæ. Peduncles slender, clustered, ½ in. long or rather more, bearing each a globular head of about 20 flowers, mostly 5-merous. Calyx not half as long as the corolla, shortly toothed. Petals smooth. Pod flat, with thickened margins, 1 to 1½ in. long, 2 to 2½ lines broad; valves hard, rolling back elastically. Seeds ovate, longitudinal; funicle thickened into a small club-shaped aril.—*A. biglandulosa*, Meissn. in Pl. Preiss. ii. 205.

W. Australia. King George's Sound and adjoining districts, *R. Brown, Drummond, 3rd Coll., n.* 97, *Oldfield.*

285. **A. Gilberti,** *Meissn. in Pl. Preiss.* ii. 204. A glabrous unarmed shrub, branches scarcely angular. Pinnæ 1 pair on a common petiole of about

½ in., the rhachis of the pinnæ often above 1 in.; leaflets 4 to 6 pairs, obliquely oblong, 4 to 6 lines long. Peduncles 2 or 3 together, slender, about ½ in. long, bearing each a head of 3 to 8 rather large globular 4-merous flowers. Calyx very short, truncate or sinuate-toothed. Petals smooth, nearly 1½ lines long, united at the base. Pod flat, coriaceous, almost woody, acuminate, narrowed at the base, about 3 lines broad, with broad margins. Seeds ovate, longitudinal; funicle small, thickened into a very small oblong club-shaped aril with a short filiform fold below it.

W. Australia, *Drummond, 2nd Coll., n.* 157; Princess Royal Harbour and Mount Bakewell, *Preiss, n.* 887 (*partly*) *and* 891. Foliage nearly of *A. nigricans*, but flowers and pod very different.

286. **A. nigricans,** *R. Br. in Ait. Hort. Kew. ed.* 3, v. 465. A glabrous unarmed shrub, branchlets scarcely angular. Pinnæ 1 or 2 pairs on a short common petiole, the partial rhachis ½ to 1 in. long; leaflets 5 to 10 pairs, or fewer in the lower pinnæ, obovate-lanceolate or linear-oblong, 3 to 5 lines long, flat, or with recurved margins. Peduncles about ½ in. long, bearing each a globular head of 20 to 30 or more 5-merous flowers. Calyx not half as long as the corolla, truncate or sinuate-toothed. Petals rather thick, more or less conspicuously striate. Pod flat, 1 to 1½ in. long, about 3 lines broad, with thickened margins, the valves rather hard, rolling back elastically. Seeds ovate, transverse, the last fold and part of the lower fold of the funicle thickened into a small oblong appressed aril.—*Mimosa nigricans*, Labill. Pl. Nov. Holl. ii. 88, t. 238, not of Vahl; *A. nigricans*, DC. Prod. ii. 466; Bot. Mag. t. 2188; Lodd. Bot. Cab. t. 313; Meissn. in Pl. Preiss. i. 20; *A. rutæfolia*, Link, Enum. Hort. Berol. 444.

W. Australia. King George's Sound and adjoining districts, *Menzies, R. Brown, Drummond, n.* 314 *and 5th Coll. n.* 18, *Preiss, n.* 887 (*partly*), and others.

287. **A. obscura,** *A. DC. Not.* 6. *Pl. Rar. Jard. Gen.* 23. *t.* 3. An unarmed shrub, more or less pubescent or hirsute, branchlets scarcely angular. Pinnæ 1, 2 or very rarely 3 pairs on a short common petiole, leaflets 5 to 10 or rarely more pairs, from ovate to linear-oblong, 2 to 3 or rarely above 4 lines long. Peduncles slender, clustered, bearing each a small globular head of about 12 to 15 5-merous flowers. Calyx short, truncate or sinuate-toothed. Petals somewhat striate. Pod flat, about 1 in. long and 3 lines broad, with thickened margins, the valves rolling back elastically. Seeds ovate, transverse; funicle thickened into a small oblong-clavate aril.—Meissn. in Pl. Preiss. i. 20; *A. Preissiana*, Lehm. Del. Sem. Hort. Hamb. 1842; *A. cycnorum*, Hook. Bot. Mag. t. 4653, copied into Lemaire, Jard. Fleur. t. 322, not of Benth.

W. Australia. Goose Island Bay, *R. Brown*; King George's Sound and adjoining districts, *Baxter, Drummond, 2nd Coll. n.* 153, *4th Coll. n.* 18, *5th Coll. n.* 17, *Preiss, n.* 885, 889 (*partly*); eastward to W. Mount Barren, *Maxwell;* Gordon river, *Oldfield.* Closely allied on the one hand to *A. strigosa*, on the other to *A. nigricans*, differs from the former chiefly in the more numerous leaflets, from the latter in the hispid stems.

288. **A. strigosa,** *Link, Enum. Hort. Berol.* ii. 444. An unarmed shrub of 2 to 4 ft.; branchlets slender, terete, pubescent, hirsute or rarely almost glabrous. Pinnæ 2 or rarely 1 pair, the common petiole and partial rhachis each usually 1 to 2 lines long, leaflets 1 to 4 pairs, oblong, obtuse, 1 to 2 lines long, glabrous or ciliate with short rigid hairs. Peduncles slender,

longer than the leaves, bearing each a small globular head of 12 to 15 flowers, mostly 5-merous. Calyx about half as long as the corolla, truncate or sinuate-toothed. Petals striate. Pod flat with thickened margins, rarely above 1 in. long and often shorter, about 3 lines broad, the valves rolling back elastically. Seeds ovate, transverse; funicle thickened almost from the base into a small aril of 2 or 3 folds under the seed.—DC. Prod. ii. 466; *A. ciliata*, R. Br. in Ait. Hort. Kew. ed. 3. v. 465, not of Willd.; *A. Browniana*, Wendl. in Flora, 1819, 139.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Drummond, 5th Coll. n.* 16, *Preiss, n.* 902, and others.

Var. *Endlicheri.* Leaflets 5 to 7 pairs, not ciliate, but much smaller than in *A. nigricans.*—*A. Endlicheri*, Meissn. in Pl. Preiss. i. 21. With the common form.

289. **A. Drummondii,** *Lindl. Swan Riv. App.* 15. An unarmed shrub, branchlets furrowed, minutely hoary or pubescent. Pinnæ 2 pairs; common petiole rarely above ¼ in. long; partial rhachises longer, but rarely ½ in., terminating in straight points; leaflets 2 to 6 pairs, oblong-linear, about 3 to 4 lines long in the terminal pair, shorter in the others. Peduncles solitary, often exceeding the leaves, bearing each a cylindrical spike of ½ to 1 in. or rarely longer. Flowers mostly 5-merous. Calyx pubescent or hirsute, more or less lobed, half as long as the corolla. Petals not striate but somewhat angular in the bud, usually sprinkled with a few rigid hairs. Pod not exceeding 1 in. long, about 3 lines broad, flat with thickened margins, glabrous or pubescent. Seeds transverse; funicle short, thickened into a small aril of about 2 folds under the seed.—Meissn. in Pl. Preiss. i. 23; Lemaire, Jard. Fleur. t. 378; Bot. Mag. t. 5191.

W. Australia. Swan River and thence to King George's Sound, *Drummond*, *1st Coll.*, *2nd Coll. n.* 152, *5th Coll. n.* 15; Darling range, *Preiss, n.* 901; Vasse river, *Mrs. Molloy*; Perongerup ranges, *Maxwell*; swamps, King George's Sound, *Oldfield.*

Var. *major.* Leaflets few, obliquely obovate or oblong, 4 to 6 lines long; flowers rather large.—*A. Candolleana*, Meissn. in Pl. Preiss. ii. 206. With the original form, especially at King George's Sound, and often scarcely distinguishable from it.

Var. (?) *parviflora.* Hirsute. Leaflets small with revolute margins. Spikes small, cylindrical, loose. Flowers much smaller than in the ordinary form. Pod unknown.—Arthur river, *Oldfield*; W. Mount Barren, *Maxwell.*

Var. (?) *ovoidea.* Very hirsute. Leaflets small with revolute margins. Spikes ovoid or oblong, ¼ to ½ in. long. Flowers as in the typical form. Pod unknown.—Towards Cape Riche, *Maxwell.*

SERIES IX. GUMMIFERÆ.—Trees or shrubs, without scattered prickles, but more or less armed with persistent spinescent stipules. Flowers in globular heads or (in species not Australian) in cylindrical spikes on simple solitary or clustered peduncles. Pod very various.

The species of this series are numerous in S. America, in Asia, and especially in Africa, and are almost all remarkable for the very great diversity in the size of the stipular spines, even on the same branch.

290. **A. farnesiana,** *Willd. Sp. Pl.* iv. 1083. A much-branched shrub, attaining a considerable size, quite glabrous or slightly pubescent on the petioles and peduncles. Pinnæ 4 to 6 or rarely more pairs; leaflets usually 10 to 20 pairs, linear, about 2 lines long or on luxuriant shoots often much longer. Stipules converted into slender straight thorns, very variable

in length, occasionally ¾ in. long, and sometimes all very minute or almost none, the plant otherwise unarmed. Peduncles usually 2 or 3 together in the older axils, each bearing a globular head of numerous 5-merous flowers. Bracts small, close under the flower-head. Calyx above half as long as the corolla. Pod thick, irregularly cylindrical or spindle-shaped, 2 to 3 in. long, indehiscent, filled with a pithy substance in the midst of which lie the seeds. Seeds obliquely transverse, with short funicles.—DC. Prod. ii. 461; *Vachellia farnesiana*, W. and Arn. Prod. 272, with the synonymy adduced; Wight, Ic. t. 300; *A. lenticellata*, F. Muell. in Journ. Linn. Soc. iii. 147.

N. Australia. N.W. coast, *A. Cunningham*; Nichol Bay, *F. Gregory's Expedition*; Sturt's Creek and M'Arthur river, *F. Mueller*; Albert river, *Henne.*

Queensland. Port Denison, *Fitzalan*; in the interior, *Mitchell.*

N. S. Wales. In the interior, *A. Cunningham*; Darling river to Cooper's Creek, common, *Victorian and Howitt's Expeditions.*

The species is very common in tropical countries in the New and the Old World, much planted for ornament or for the perfume extracted from its flowers, and readily spreading. Believed by some to be of American origin, by others to be truly indigenous also in Africa and Asia, and has every appearance of being so in Australia.

291. **A. suberosa,** *A. Cunn.; Benth. in Hook. Lond. Journ.* i. 499. Branches terete or nearly so, more or less hirsute, the older ones with a slightly corky bark. Pinnæ 1 or 2 pairs, the common petiole about ¼ in., the partial rhachis nearly ½ in. long; leaflets 8 to 12 pairs, oblong-linear, thick and rigid, obtuse, 1 to 2 lines long, more or less hirsute or ciliate. Stipules spinescent, short, slender, and straight. Flowers not seen, except some fragmentary remains on a short thick peduncle. Pod flat, but rather thick, with convex valves, about 3 in. long, ¼ to nearly ½ in. broad, pubescent. Seeds longitudinal, broadly ovate, woolly-pubescent. Funicle folded and slightly thickened under the seed.

N. Australia. Vansittart Bay and Careening Bay, *A. Cunningham*; Glenelg river, *J. Martin.*

292. **A. Bidwilli,** *Benth. in Linnæa*, xxvi. 629. Glabrous; branches mostly terete. Pinnæ 15 to 20 pairs, the common petiole 2 to 3 in., the partial rhachis ½ to 1 in. long; leaflets 15 to 25 pairs, oblong, obtuse, rigid, scarcely 1 line long. Stipules spinescent and sometimes 2 to 3 lines long, usually very small or quite obsolete. Peduncles solitary, with an annual deciduous 4-lobed bract about the middle, bearing a globular head of about 20 or rather more 4-merous flowers and sometimes 1 or 2 lower down the peduncle, each flower often 2 lines long. Calyx shortly toothed. Petals smooth, united above the middle. Pod straight, 3 to 6 in. long, about ½ in. broad, narrowed at the base; valves coriaceous, somewhat convex, reticulate lengthwise. Seeds large, ovate, longitudinal; funicle slightly thickened from the base upwards, very shortly inflexed or folded under the seed.

N. Australia. Whitsunday and Gloster Islands, *Henne.*

Queensland. Wide Bay, *Bidwill*; Rockhampton, *Dallachy*; Port Denison, *Fitzalan.*

Var. (?) *major.* Leaflets sometimes 2 lines long. Seeds broader. Flowers unknown.—Ridges of the Victoria river, *F. Mueller.* To this belong the fruiting specimens referred to *A. pallida*, F. Muell. in Journ. Linn. Soc. iii. 147.

The flowers of this species have at first sight some resemblance to those of some *Albizzias*, but the stamens are quite free, although inserted on a small prominent disk under the ovary, not united in a tube round the ovary, as in all the *Inga*-flowered genera.

293. **A. pallida,** *F. Muell. in Journ. Linn. Soc.* iii. 147 (*partly*). A tree, quite glabrous, but the foliage of a very pale or glaucous hue. Pinnæ 3 to 10 pairs, the common petiole usually 1 to 2 in. but in the larger leaves 4 to 6 in. long; leaflets 10 to 20 pairs, oblong, coriaceous, rigid, mostly 3 to 4 lines long. Stipules spinescent, with thickened bases or sometimes none. Peduncles solitary, 1 to 1½ in. long, with an annular 4-lobed deciduous bract about the middle as in *A. Bidwilli*, bearing a globular head of about 20 flowers, smaller than in that species, and mostly, if not all, 5-merous. Calyx very short, sinuate-toothed. Corolla scarcely 1½ lines long, shortly lobed. Pod unknown.

N. Australia. M'Adam range, Fitzmaurice river, *F. Mueller.*

91. ALBIZZIA, Durazz.

Calyx campanulate or tubular, 5- or rarely 4-toothed. Corolla 5- or rarely 4-lobed, with a cylindrical tube. Stamens indefinite, usually numerous and long, united at the base in a tube enclosing the ovary. Pod linear or oblong, straight or nearly so, flat, thin, rarely coriaceous, indehiscent or opening without elasticity in 2 valves. Seeds usually orbicular, along the centre of the pod; funicle filiform.—Trees or shrubs, without prickles. Leaves twice pinnate, with a gland on the petiole below the pinnæ and others between or below some or all of the pinnæ and leaflets. Flowers in globular heads or rarely cylindrical spikes, usually hermaphrodite. Stamens white or pink, rarely yellow, much longer than in *Acacia.*

The genus is limited to the Old World, and is chiefly tropical. Of the four Australian species, one is widely dispersed over tropical Asia, the others are endemic. F. Mueller proposes to reunite this and *Pithecolobium* with *Acacia*, but that can scarcely be done without returning to the Linnean genus *Mimosa*, for *Pithecolobium* as to flower and fruit, and *Albizzia* as to flowers, are undistinguishable from *Inga*, whilst *Lysiloma* as closely connects *Acacia* with *Mimosa*. If the Linnæan *Mimosa* is broken up into distinct genera, there is no character so constant and so easily recognized as that which separates *Acacia* from *Albizzia*. It is, however, very difficult to draw a definite line between *Albizzia* and *Pithecolobium*, which only differ in the fruit.

Flowers in cylindrical spikes on axillary peduncles . . . . 1. *A. lophantha.*
Flowers in globular heads on axillary peduncles.
  Leaflets 5 to 10 pairs, 2 to 3 lines long . . . . 2. *A. basaltica.*
  Leaflets 2 to 4 pairs, ½ to 1 in. long . . . . 3. *A. Thozetiana.*
Flowers in small heads in large terminal panicles.
  Panicle loose. Stamens about ¼ in. long. Pod under 1 in. broad . 4. *A. procera.*
  Flower-heads very numerous and crowded. Stamens about ½ in. long.
    Pod 1½ to above 2 in. broad . . . . 5. *A. canescens.*

A. Lebbeck, Benth., allied to *A. canescens*, but more glabrous, with much larger flowers, not closely sessile, and the pod not so broad, etc., a tree widely dispersed over tropical Asia and Africa, has been introduced into the neighbourhood of Brisbane.

1. **A. lophantha,** *Benth. in Hook. Lond. Journ.* iii. 86. A tall shrub or small tree; branches, petioles, and peduncles usually velvety-pubescent. Pinnæ 8 to 10 pairs; leaflets 20 to 30 or more pairs, linear, 3 to 4 lines long, the nerve near the upper margin, glabrous above, silky-pubescent underneath. Flowers in loose cylindrical axillary pedunculate spikes of from 1½ to nearly 3 in., each flower 2 to 3 lines long, usually 5-merous. Calyx shortly lobed, not half as long as the corolla. Stamens fully ½ in. long,

united at the base into a tube rather shorter than the corolla. Pod often above 3 in. long, 4 to 6 lines broad, very flat. Seeds transverse, ovate or orbicular.—*Mimosa distachya*, Vent. Jard. Cels. t. 20, not of Cav.; *M. elegans*, Andr. Bot. Rep. t. 563; *Acacia lophantha*, Willd. Sp. Pl. iv. 1070; Bot. Reg. t. 361; Lodd. Bot. Cab. t. 716; Bot. Mag. t. 2108.

W. Australia. Goose Island Bay, *R. Brown*: King George's Sound, *Baxter*; Geographe Bay, *Fraser*; Cape Naturaliste, *Oldfield*; Swan River ?, *Drummond.*

2. **A. basaltica,** *Benth.* A shrub; branchlets nearly terete, rusty with a minute glandular pubescence. Pinnæ 1 or 2 pairs, the common petiole rarely $\frac{1}{2}$ in. long and often very short; leaflets 5 to 10 pairs, oblong or almost ovate, very obtuse, mostly 2 to 3 lines long, coriaceous, minutely hoary-pubescent. Peduncles in the upper axils scarcely exceeding the leaves, bearing a dense globular head of about 20 to 30 flowers, mostly 5-merous, about $1\frac{1}{2}$ lines long. Calyx pubescent, shortly lobed, about two-thirds as long as the corolla. Staminal tube nearly as long as the corolla, the filaments much longer. Pod about 3 in. long, 4 to 5 lines broad, coriaceous, very flat, with thickened margins. Seeds flat, orbicular.—*Acacia basaltica*, F. Muell. in Journ. Linn. Soc. iii. 146.

Queensland. Basaltic plains, Peak Downs, *F. Mueller*; Bowen river, *Bowman*; Zamia Creek and Comet river, *Leichhardt.*

3. **A. Thozetiana,** *F. Muell. Herb.* A tree, attaining 50 to 60 ft., with a dense spreading head, glabrous or the young shoots hoary. Pinnæ 1 pair, with a short common petiole; leaflets 2, 3, or very rarely 4 pairs, cuneate-oblong or broadly linear, very obtuse, the end ones $\frac{1}{2}$ to 1 in. long, the lower ones much smaller. Peduncles in the upper axils $\frac{1}{2}$ to 1 in. long, bearing each a globular head of 20 to 30 or more flowers, 5-merous or sometimes 4-merous, minutely hoary-pubescent, about $1\frac{1}{2}$ lines long. Calyx tubular, more than half as long as the corolla, but narrower than in the preceding species. Pod attaining 6 to 8 in. in length and $\frac{1}{2}$ to $\frac{3}{4}$ in. in breadth, very flat, with thickened margins. Seeds very flat, orbicular, bordered by a narrow wing.—*Acacia Thozetiana*, F. Muell. Fragm. iv. 9.

Queensland. Wide Bay, *Bidwill*, *Leichhardt*; Fort Cooper, Rockhampton, *Thozet*; Thozet's Creek, *Dallachy.*

4. **A. procera,** *Benth. in Hook. Lond. Journ.* iii. 88. A tall tree, the young shoots slightly silky-pubescent, at length glabrous. Pinnæ usually 3 pairs, distant along a common petiole often $\frac{1}{2}$ ft. long,; leaflets 6 to 8 pairs, obliquely oval-oblong, usually obtuse, often nearly 1 in. long and $\frac{1}{2}$ in. broad, very unequally narrowed at the base, penniveined but not very prominently so, minutely hoary-pubescent or glabrous above. Peduncles about 1 in. long, in clusters of 2 or 3, in a loose terminal panicle, each bearing a globular head of 15 to 20 sessile flowers, mostly 5-merous, and scarcely more than 3 lines long, including the stamens. Corolla slender, less than 2 lines long, divided to the middle. Pod 5 to 7 in. long, 9 to 10 lines broad, very flat and thin. Seeds very flat, orbicular.—*Mimosa procera*, Roxb. Pl. Corom. ii. 12, t. 121; *A. elata*, Roxb. Fl. Ind. iii. 546; *Acacia procera*, Willd. Sp. Pl. iv. 1063.

N. Australia. Gloucester Island, *Henne.* Widely distributed over S. E. India and the

Archipelago. The Australian specimens are not complete, but, as far as they go, they do not appear to differ at all from the Indian ones.

5. **A. canescens,** *Benth.* A beautiful spreading tree, the young shoots silky-pubescent, the adult foliage more or less hoary with a very minute appressed pubescence. Pinnæ usually 2 pairs, rarely with a fifth odd pinna or a third pair, the common petiole 2 to 4 in. long, each rhachis 3 to 6 in.; leaflets 5 to 8 pairs on the terminal pinnæ, very obliquely obovate and unequally narrowed at the base, mostly ¾ to 1½ in. long, fewer and smaller on the lower pinnæ, pennivcined but the veins much less prominent than in *A. Lebbeck.* Flower-heads small, numerous, on short peduncles in dense terminal panicles much shorter than the last leaves. Flowers sessile, mostly 5-merous. Calyx about 1 line, corolla about 2½ lines long, both silky-pubescent. Stamens about ½ in. long, the united part shorter than the corolla. Pod stipitate, often 8 to 10 in. long and 1½ to 2½ in. broad in our specimens, very thin and flat. Seeds flat, orbicular, along the centre of the pod, not quite ripe in the specimens seen.

Queensland. Burdekin river, *F. Mueller;* Fitzroy and Bowen rivers, *Bowman;* Rockhampton, *Thozet, Dallachy.* Allied on the one hand to *A procera*, on the other to *A. Lebbeck*, differing from the former in the broader flowers, much longer stamens, the panicle more dense, and a much broader pod; from *A. Lebbeck* in the much smaller closely sessile flowers and broader pod, and from both in the general aspect of the foliage.

92. PITHECOLOBIUM, Mart.

(Cathormion, *Hassk.*)

Calyx campanulate or tubular. Corolla 5-lobed, with a cylindrical tube. Stamens indefinite, usually numerous and long, united at the base in a tube enclosing the ovary. Pod flattened, usually rather thick and much curved, annular or spirally twisted, either opening entirely or on the outer edge in 2 valves, or quite indehiscent, very smooth and often coloured inside or with a thin pulp. Seeds ovate or orbicular; funicle filiform.—Trees or rarely shrubs, without prickles. Leaves twice pinnate, usually with a gland on the petiole below the pinnæ, and others between or below some or all of the pinnæ and leaflets; leaflets few and rather large in all the Australian species. Flowers in globular or oblong heads or umbels, or rarely in cylindrical spikes, usually hermaphrodite and white, the stamens rarely red.

A considerable tropical genus, distributed over the New as well as the Old World. Of the three Australian species, one is also in the Indian Archipelago, the two others endemic, one as yet doubtful as to the genus, the pod being unknown. *Pithecolobium*, with the flowers and fruit of some sections of *Inga*, only differs from that genus in the twice-pinnate, not simply pinnate leaves. *Calliandra* and *Albizzia* have the same flowers and only differ in the pod. *Acacia* is at once and constantly distinguished by the stamens never united in a tube round the ovary.

Flowers pedicellate in the head (umbellate).
  Leaflets oblong or rhomboidal, acuminate. Pod twisted, 2-valved . 1. *P. pruinosum.*
  Leaflets obliquely obovate, obtuse. Pod indehiscent, very hard, separating into distinct articles . . . . 2. *P. moniliforme.*
Flowers sessile, the corolla ¾ in. long. Leaflets acuminate . . . . 3. *P. grandiflorum.*

1. **P. pruinosum,** *Benth. in Lond. Journ.* iii. 211. A beautiful tree, the young branches, foliage, and inflorescence rusty with a short pubescence

or glabrous. Pinnæ very irregularly in 1 or 2 pairs, with or without an odd one, the petiole and each rhachis varying from 1 to 6 in. long; leaflets usually 3 or 4 pairs on the terminal pinnæ, but very irregular in number, size, and shape, mostly broadly oblong or rhomboidal and acuminate, rarely very obtuse, the larger ones often 2 to 3 in. long, but mostly smaller. Peduncles 2 or 3 together in the upper axils or shortly racemose. Flowers numerous, in globular umbels, on pedicels of about 2 lines. Calyx small, shortly toothed. Corolla fully 2 lines long. Pod several in. long, 7 to 8 lines broad, flat but much curved and twisted, the upper inner margin thickened and continuous, the outer one much sinuate and undulate, the valves smooth and reddish inside. Seeds ovate, transverse; funicle rather thick, but terete, folded under the seed.

Queensland. Brisbane river, Moreton Bay, *A. Cunningham* and others; Rockhampton, *Thozet, Dallachy.*

N. S. Wales. Hunter's River, Ash Island, *R. Brown* and others; Clarence and Richmond rivers, *C. Moore*; Liverpool plains, *A. Cunningham*; southward to Kiama, *Harvey*; Illawarra, *Ralston.*

The Javanese *P. Junghuhnianum*, Benth., scarcely differs from this species.

2. **P. moniliferum,** *Benth. in Hook. Lond. Journ.* iii. 211. A tree, with the young shoots usually pubescent, at length glabrous. Pinnæ 1 or 2 pairs, the common petiole ½ to 1 in., each rhachis 1 to 2 in. long; leaflets 4 to 7 pairs, obliquely obovate or oval-oblong, obtuse, very oblique at the base, shining and reticulately pennniveined above, opaque and less veined underneath, the terminal ones 1, 1½, or nearly 2 in. long, the others smaller. Peduncles clustered in the upper axils, forming a short irregular terminal panicle. Flowers numerous, in globular umbels, the pedicels about 1½ in. long. Calyx nearly 1 line, corolla about 2 lines long, minutely silky-pubescent. Stamens more than twice as long, the united part nearly as long, as the corolla. Pod usually falcate, 3 to 4 in. long, ¾ in. broad, very thick and hard, indehiscent but separating into closed 1-seeded articles. Seeds transverse, oblong, flat but thick; funicle very short. *Inga monilifera*, DC. Prod. ii. 410; *Cathormion moniliferum*, Hassk. Retzia, 231.

N. Australia. Point Pearce, Victoria river, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; along all the watercourses round the Gulf of Carpentaria, *Leichhardt.* The species was originally described from Timor, and is in several islands of the Indian Archipelago.

3. **P. (?) grandiflorum,** *Benth.* A beautiful tree of 30 ft., or, according to some, a tall shrub, glabrous or nearly so. Pinnæ 1 or 2 pairs, the common petiole and each rhachis about 2 to 4 in. long; leaflets 2 to 6 pairs, ovate, acutely acuminate, 1½ to 2 in. long, less oblique and firmer than in *P. pruinosum*, penniveined. Flower-heads numerous, on short peduncles, in a terminal panicle scarcely exceeding the leaves. Flowers sessile, much larger than in any other *Pithecolobium.* Calyx campanulate, sinuate-toothed, nearly 3 lines long. Corolla ¾ in. long, funnel-shaped, 5-lobed, silky-pubescent outside. Stamens of a rich crimson, the tubular portion nearly as long as the corolla, the free part exceeding it by about 1 in. Pod unknown.—*Mimosa grandiflora*, Soland. ms.

Queensland. Endeavour river, *Banks and Solander*; Cape York, *W. Hill*; Edgecombe Bay, *Dallachy.*

N. S. Wales. Hastings river, *Tozer.*

Until the fruit shall have been seen, it is impossible to fix the genus of this fine species. It has the foliage of the Indian section *Clypearia* of *Pithecolobium*, the flowers are more like those of several American *Calliandras.*

ORDER XLI. ROSACEÆ.

Calyx either enclosing the ovary, or adhering to it, or quite free, 5-, rarely 4-lobed, with the addition, in a few genera of as many external accessary lobes. Petals as many as true calyx-lobes, inserted on the calyx at the base of the lobes, or in *Stylobasium* hypogynous. Stamens indefinite, rarely few, inserted with the petals, free. Ovary of 1, 2 or more carpels, usually distinct at the time of flowering, but sometimes combined even then into a single 2- to 5-celled ovary, which is then always inferior or combined with the calyx; ovules 1 or 2, rarely more in each carpel; styles or sessile stigmas distinct. Fruiting carpels either free or variously combined with each other or with the calyx, indehiscent or rarely opening along the inner edge. Seeds without albumen or rarely albuminous; embryo with large cotyledons and a short radicle.—Trees shrubs or herbs. Leaves alternate, simple or compound, almost always with stipules. Flowers in axillary or terminal cymes or solitary, very rarely in simple racemes.

A numerous Order, widely spread over the globe, but more in the temperate and cooler parts of the northern hemisphere than within the tropics or in the southern hemisphere. Of the seven Australian genera, one extends over the tropics of the New and the Old World, four belong to the extratropical flora of the northern hemisphere, with a few tropical species, especially in mountain ranges, one, *Acæna,* is also chiefly extratropical, but in the southern hemisphere, with very few species extending into the tropical mountains or northern temperate regions of America; one only, *Stylobasium,* is endemic in Australia.

Of the several tribes into which *Rosaceæ* are divided, a few only are represented in Australia, and those only by one or two genera each, it is therefore useless entering into any detailed exposition of their characters.

Trees or erect shrubs, with entire leaves. Stipules deciduous or none.
Carpel solitary, with 2 erect ovules and a basal style (**Chrysobalaneæ**).
Trees. Petals 5 or 4. Stamens perigynous, with filiform filaments and small anthers . . . . 1. PARINARIUM.
Shrubs. Petals none. Stamens hypogynous; anthers longer than the filaments . . . . 2. STYLOBASIUM.
Herbs or scrambling shrubs. Leaves toothed divided or compound.
Carpels indefinite, protruding from the open calyx. Petals present.
Herbs. Calyx with accessary external lobes. Fruit-carpels dry.
Calyx imbricate. Styles persistent, forming long awns to the fruit-carpels . . . . 3. GEUM.
Calyx valvate. Styles deciduous. Carpels seed-like, without awns . . . . 4. POTENTILLA.
Scrambling shrubs, rarely prostrate or almost herbaceous. Calyx slightly imbricate, without accessary lobes. Fruit-carpels succulent . . . . 5. RUBUS.
Carpels several, enclosed in the calyx-tube. Petals present. Stamens numerous. Prickly shrubs with pinnate leaves . . . . ROSA (p. 432).
Carpels 1 to 4, enclosed in the calyx-tube. Petals none. Herbs.
Ovule erect. Style basal. Leaves palmately lobed or divided. Stamens few . . . . 6. ALCHEMILLA.

Ovule pendulous. Style terminal or nearly so. Leaves pinnate.
  Fruiting-calyx armed with prickles. Stamens few . . . . . 7. ACÆNA.
  Fruiting-calyx without prickles. Flowers usually monœcious.
    Stamens numerous . . . . POTERIUM (p. 434).

1. PARINARIUM, Juss.

(Petrocarya, *Jack;* Grymania, *Presl.*)

Calyx-lobes 5, imbricate. Petals 5, rarely 4. Stamens numerous or rarely few, all perfect or those on one side reduced to small staminodia; filaments filiform; anthers small. Ovary of a single carpel, adnate on one side to the mouth of the calyx-tube and protruding from it, more or less completely 2-celled, with 1 erect ovule in each cell; style from the base of the ovary. Drupe ovoid or spherical, the endocarp bony. Seeds 1 or 2, erect.—Trees. Leaves alternate, coriaceous, entire. Stipules deciduous, usually small. Flowers white or pink, in cymes forming terminal raceme-like or corymbose panicles.

The genus is dispersed over the tropical regions both of the New and the Old World. Of the two Australian species, one is also in the Indian Archipelago, the other is endemic.

Petiole without glands. Leaves much veined. Flowers small. Calyx-
  lobes acute. Perfect stamens about 8 . . . . 1. *P. Nonda.*
Petiole with 2 glands. Leaves shining, little veined. Flowers rather
  large. Calyx-lobes obtuse. Perfect stamens 30 to 50 . . . . 2. *P. Griffithianum.*

1. **P. Nonda,** *F. Muell. Herb.* Branches rather slender, loosely tomentose when young. Leaves ovate, obtuse or obtusely acuminate, rounded or almost cordate at the base, 2 to 3 in. long, 1 to 1½ in. broad, rarely narrower and narrowed at each end, glabrous but rather rough above, whitish with a minute tomentum underneath, with many prominent parallel pinnate veins and much reticulate between them. Flowers small, the terminal panicle or thyrsus loose, the axillary ones smaller and raceme-like. Bracts shorter than the flowers, deciduous. Calyx pubescent, nearly regular, about 2 lines long, the lobes acute, rather shorter than the tube and almost as long as the petals. Stamens short, usually about 8 perfect on the same side of the flower as the ovary, the ring completed by 6 to 10 small staminodia. Drupe ovoid, densely villous inside, 2-celled, 2-seeded.

N. Australia. From the Upper Lynd to Van Diemen's river, Gulf of Carpentaria, *Leichhardt*; Gilbert river, *F. Mueller.*

Queensland. Cape York, *M'Gillivray*; Albany Island, *F. Mueller.*

The species is nearly allied to the *P. sumatranum* of the Indian Archipelago, and still more to the African *P. curatellæfolium*, Planch., but the flowers appear to be smaller than in either, with some slight differences in the foliage. It is the one to which Leichhardt gives the name of *Nonda-tree* in his travels.

2. **P. Griffithianum,** *Benth. in Hook. Fl. Nig.* 334. Branches stout, glabrous or minutely hoary when young. Leaves elliptical-oblong, acuminate, 3 to 4 in. long or rather more, acute at the base, shining above, paler underneath, but quite glabrous, the veins not very prominent and distant; 2 small glands at the top of the petiole. Flowers rather large, in terminal corymbose hoary-pubescent panicles. Calyx-tube obliquely turbinate, incurved, about 2 lines long; lobes very obtuse, the largest as long as the tube. Petals exceeding the calyx. Stamens very numerous (30 to 50), all perfect. Ovary

very villous, with a long style. Drupe oblong, very villous inside, 2-celled, 2-seeded.

N. Australia. Port Essington, *Armstrong;* Quail Island, *Flood.*

The species extends over the Indian Archipelago to the Philippine Islands, for *Grymania salicifolia*, Presl, Epimel. Bot. 193 (Cuming, n. 1057), appears to be the same species, although with rather narrower, more rigid leaves.

2. STYLOBASIUM, Desf.

(Macrostigma, *Hook.*)

Calyx-lobes 5, imbricate. Petals none. Stamens 10, hypogynous; filaments short, persistent; anthers large, linear, erect. Ovary of a single carpel, sessile in the base of the calyx, 1-celled, with 2 erect ovules; style from the base of the ovary; stigma large, peltate. Drupe nearly dry, obovoid or globular, surrounded by the persistent calyx. Seed erect.—Unarmed shrubs. Leaves alternate, entire. Stipules minute or none. Flowers solitary in the axils of the leaves, on short pedicels, the upper ones forming a terminal raceme, usually polygamous, the females with long filiform staminodia, the males with a small abortive ovary.

The genus is exclusively Australian. It differs from the whole Order in its hypogynous stamens, and is connected with the American genus *Leiostemon* alone, by its large anthers.

Leaves cuneate-oblong or obovate. Drupe twice as long as the calyx . 1. *S. spathulatum.*
Leaves linear. Drupe or nut scarcely exceeding the calyx . . . . 2. *S. lineare.*

1. **S. spathulatum,** *Desf. in Mem. Mus.* v. 37, *t.* 2. An erect bushy shrub of several feet, glabrous or the young shoots hoary-pubescent. Leaves mostly cuneate-oblong or the lower ones obovate, very obtuse or emarginate, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long, narrowed into a short petiole, rather thick and fleshy; veinless except the midrib. Pedicels short, with 1 or 2 minute bracteoles. Calyx, when in flower, about 3 lines long, rather narrow, the lobes obtuse, shorter than the tube, the anthers shortly protruding, when in fruit very open. Drupe nearly globular, about 5 lines diameter.

W. Australia. Sharks Bay, *Milne*, and probably from the same locality, *Baudin's Expedition;* Flinders Bay, *Collie;* Port Gregory, *Oldfield.*

2. **S. lineare,** *Nees in Pl. Preiss.* i. 95. An erect bushy shrub, glabrous and somewhat glaucous or the young shoots slightly hoary. Leaves narrow-linear, very obtuse, the lower ones 1 to $1\frac{1}{2}$ in. long, narrowed into a short petiole, thick and fleshy, the upper ones often very small and distant. Calyx in the original form nearly as large as in *S. spathulatum*, but the lobes longer than the tube, the anthers shortly protruding. Drupe exceeding the calyx-lobes, but much smaller and drier than in *S. spathulatum.*

W. Australia. Abandoned fields, near Perth and York, *Preiss, n.* 2383 *and* 2384; Limestone Range, N. of Murchison river, *Oldfield.*

Var. *parviflora.* Branches slender. Calyx scarcely 2 lines long.—*Macrostigma australe*, Hook. Ic. Pl. t. 412.—W. Australia, *Drummond, n.* 16.

3. GEUM, Linn.

(Sieversia, *R. Br.*)

Calyx-tube short, open; lobes 5, imbricate, usually with as many small external accessary lobes alternating with them. Petals 5, broad, spreading. Stamens indefinite. Carpels indefinite, with 1 erect ovule in each; style terminal, filiform, with a hook or twist at or below the end. Fruit a head of small dry achenes, surrounded by the persistent calyx, each one terminating in a long filiform straight hooked or geniculate awn, formed by the persistent style, and either naked hairy or plumose. Herbs with a perennial rootstock. Leaves chiefly radical, pinnate or pinnatisect, the leaflets or segments toothed, the terminal one much larger than the others; stem-leaves usually small and bract-like. Flowers yellow white or red, solitary and terminal, or few in a loose corymbose terminal panicle.

The genus is dispersed over the temperate regions of the globe. Of the two Australian species, one is common in the northern hemisphere of the Old World, the other is endemic.

Flowers yellow, several on the stem, Radical leaves with 3 or more large ovate or lanceolate segments. Styles (in the flower) twisted below the end . . . . 1. *G. urbanum.*
Flowers large, white, solitary. Radical leaves with one large reniform crenate segment. Styles, even in the flower, twisted at the end only. 2. *G. renifolium.*

1. **G. urbanum,** *Linn.*; *DC. Prod.* ii. 551. Stems erect, slightly branched, 1 to 2 ft. high, glabrous or softly pubescent. Lower leaves on long petioles, with 3, 5 or more large segments intermixed with small ones, the upper leaves usually with only 3 large segments or a single one divided into 3, and sometimes 2 or 3 small ones along the stalk, all as well as the leafy stipules coarsely toothed or lobed. Flowers yellow, terminating the branches of a very loose panicle. Calyx-lobes entire, acute. Petals often not exceeding the calyx in the northern specimens, considerably larger in the Tasmanian ones. Fruit-carpels covered with silky hairs. Style plumose-hairy, twisted below the middle at the time of flowering, but afterwards the lower part elongates and becomes glabrous under the twist, the extremity at length frequently falls away, leaving the fruit with a terminal recurved style, hooked only at the extremity, as in the section *Sieversia.*—Hook. f. Fl. Tasm. i. 114, with the synonyms adduced.

N. S. Wales. Nepean river, *R. Brown*; Mackay river, *Beckler*, all with the small petals of the European form.

Victoria. Moist banks of the Mitta-Mitta, Delatite river, etc., *F. Mueller*, with rather large petals.

Tasmania. Port Dalrymple, *R. Brown*; not uncommon in shady places in various parts of the colony, *J. D. Hooker*, with rather large petals.

The species is common in Europe, temperate Asia and the E. Indian mountains, and naturalized in several other parts of the world.

2. **G. renifolium,** *F. Muell. in Trans. Phil. Inst. Vict.* ii. 66. Rootstock thick and hard. Leaves radical, with a single terminal reniform segment, often 2 to 3 in. broad, coarsely crenate, usually broadly and obscurely lobed, very much wrinkled, the veins very prominent underneath, and sometimes a few very small segments scattered along the petiole. Flowering-stem $\frac{3}{4}$ to 1 ft. high, with a single large terminal white flower, and usually 3 distant small sessile bract-like deeply toothed leaves, the lowest above the middle of the stems. Calyx-lobes enlarged after flowering and often toothed. Petals longer than the calyx. Styles plumose-villous, not produced beyond the twist even at the time of flowering, elongated and hooked at the end when in fruit. —Hook. f. Fl. Tasm. ii. 361.

Tasmania. Southern Alps, *Oldfield;* Mount Lapeyrouse, *C. Stuart.* This fine species belongs to the section *Sieversia,* by some ranked as a genus, but differing only in the style not produced beyond the twist.

4. POTENTILLA, Linn.

Calyx-tube short, open; lobes 5 or rarely 4, valvate, with as many external accessary lobes alternating with them. Petals 5, rarely 4, broad, spreading. Stamens indefinite. Carpels indefinite, with 1 erect ovule in each; style terminal or lateral, deciduous. Fruit a head of small dry seed-like achenes, surrounded by the persistent calyx, the receptacle scarcely enlarging.—Herbs with a perennial tufted stock, and occasionally creeping stolons or runners. Flowering stems usually short. Leaves either digitately 3- or 5-foliolate or pinnate; leaflets toothed. Peduncles 1-flowered, solitary or in a loose terminal cyme.

The species are numerous, dispersed over the whole of the northern hemisphere without the tropics, especially in Europe and Asia, extending into the mountains of E. India, and descending along the Andes into S. America, and one or two species only, and those the same as northern ones, are found in the extratropical regions of the southern hemisphere, including New Zealand. The only Australian species extends over the greater portion of the area of the genus.

1. **P. anserina,** *Linn.; DC. Prod.* ii. 582. Stock tufted, with long creeping runners rooting at the nodes. Leaves pinnate, with numerous oblong, deeply notched leaflets, either green and slightly silky on the upper side and of a shining silvery-white underneath from the silky down with which they are covered, or very white on both sides. Peduncles long, solitary at the nodes, bearing a single rather large yellow flower.—Hook. f. Fl. Tasm. i. 113.

Victoria. Searle's Cove, *F. Mueller;* Fitzroy river, *Robertson;* mouth of the Glenelg, *Allitt.*

Tasmania. Port Dalrymple and Derwent river, *R. Brown;* Circular Head and elsewhere on the N. and W. coasts, rarer to the southward, *J. D. Hooker.*

The species is widely dispersed over the extratropical regions of both the northern and southern hemispheres, including New Zealand.

5. RUBUS, Linn.

Calyx-tube short, open; lobes 5, imbricate, without external accessary ones. Petals 5, erect or spreading. Stamens indefinite. Carpels indefinite, with 2 pendulous ovules in each, one of them smaller and abortive; styles terminal. Fruit a head of succulent carpels, forming a kind of granulated berry round the conical or shortly oblong dry or spongy receptacle.—Weak scrambling shrubs or rarely prostrate and almost herbaceous, usually prickly. Leaves pinnately or palmately divided into distinct segments or leaflets or lobed only, the lobes or segments toothed. Flowers axillary or in terminal leafy panicles.

A considerable genus, dispersed over most parts of the globe. Of the five Australian species, one extends over Africa and the warmer parts of Asia, one is common in the Indian Archipelago, one is abundant in China, but not in the intervening Achipelago, and two are endemic. The fruits of several are edible but acid.

Unarmed dwarf glabrous creeping plant. Flowers yellow . . . . . 1. *R. Gunnianus.*

Prickly shrubs, scrambling climbing or almost erect. Flowers pink or white.
Leaves broad, toothed or lobed, rusty underneath . . . . 2. *R. moluccanus.*
Leaves pinnate, with 3 or 5 leaflets, white-tomentose underneath. Fruit with few large carpels . . . . 3. *R. parvifolius.*
Leaves pinnate, with 5 or 7 leaflets, green on both sides. Fruit with numerous small carpels . . . . 4. *R. rosæfolius.*
Leaves digitate, with 5 leaflets on long petiolules . . . . 5. *R. Moorei.*

1. **R. Gunnianus,** *Hook. Ic. Pl. t.* 291. A dwarf, creeping, tufted, glabrous and unarmed plant, forming patches of several feet in diameter, the slender woody stems usually buried in the soil. Leaves mostly ovate, ½ to nearly 1 in. long, deeply crenate-lobed or pinnately divided into 3 segments or leaflets, the lobes obtuse. Peduncles solitary, not exceeding the leaves, 1-flowered. Calyx-lobes rather obtuse, about 2 lines long. Petals yellow, narrow, exceeding the calyx. Fruit globular, scarlet, the carpels few, large, very fleshy, and said to be of an excellent flavour. -Hook. f. Fl. Tasm. i. 112.

Tasmania. Common in the mountains, at an elevation of 3000 to 5000 ft., *J. D. Hooker.*

2. **R. moluccanus,** *Linn.; DC. Prod.* ii. 566. A tall scrambling shrub; branches and petioles terete, clothed with a short rusty or white woolly down, often mixed with longer hairs, and armed with numerous small recurved prickles. Leaves usually broadly ovate-cordate, toothed, shortly and broadly 3- or 5-lobed, 2 to 4 in. long, occasionally deeply 3-lobed but not quite to the midrib, green, somewhat rugose and glabrous or sprinkled with a few hairs above, rusty or whitish-tomentose underneath, the principal veins more villous and often armed with prickles. Flowers red, irregularly clustered in short panicles in the upper axils, the upper ones forming a terminal panicle, usually very silky-villous. Bracts deeply cut, very deciduous. Pedicels usually short when in flower, longer in fruit. Calyx-lobes acuminate, 4 or 5 lines long. Fruit nearly globular, glabrous, scarcely exceeding the calyx-lobes in our specimens, said to be red, insipid or slightly acid. *R. Hillii*, F. Muell. in Trans. Phil. Inst. Vict. iii. 67, and Fragm. iv. 31.

N. Australia. Port Essington, *Armstrong*; a rather smaller-flowered form, with the leaves less lobed, almost as in *R. acerifolius*, Wall.

Queensland. Brisbane river, *W. Hill, Leichhardt*; Rockhampton, *Dallachy.*

N. S. Wales. Hunter and Williams rivers, *R. Brown*; Hastings and Macleay rivers, *Beckler*; Clarence river, *C. Moore*; Paramatta, *Woolls*; Illawarra, *A. Cunningham*: Kiama, *Harvey.*

Victoria. Nangatta mountains, Upper Genoa river, *F. Mueller.*

The species extends over the Indian Archipelago to the Philippines, and the closely allied *R. rugosus*, Sm., and *R. reflexus*, Bot. Reg., to E. India and China. The majority of the Australian specimens belong to a form precisely the same as one common in the Archipelago, which appears to be that originally described by Rumphius.

3. **R. parvifolius,** *Linn.; DC. Prod.* ii. 564. A scrambling shrub; branches softly pubescent or woolly, armed with small hooked prickles. Leaves pinnate, with a common petiole of 1 to 2 in.; leaflets 3 or very rarely 5, nearly orbicular, about ¾ to 1 in. long or in luxuriant shoots nearly twice as much, deeply and irregularly toothed, glabrous or sprinkled with a few hairs and deeply wrinkled above, white and tomentose or woolly under-

neath. Flowers few, in short terminal panicles or solitary in the upper axils. Bracts narrow, entire or rarely lobed. Sepals varying from 2 to 5 lines long, acuminate, softly hairy inside and out. Petals pink, usually erect and shorter than the calyx, rarely longer and spreading. Fruit globular, red, said to be of a pleasant flavour, the carpels rather large and not numerous, glabrous or slightly hairy.—Bot. Reg. t. 496; *R. ribesifolius*, Sieb. Pl. Exs.; *R. macropodus*, Ser. in DC. Prod. ii. 557; Hook. f. Fl. Tasm. i. 112; F. Muell. Fragm. iv. 30, and Pl. Vict. ii. t. 15; *R. Zahlbrucknerianus*, Endl. Atakt. t. 35.

Queensland. Moreton Bay, *Fraser*, *F. Mueller*; Rockhampton, *Dallachy*; in the interior, on the Maranoa, *Mitchell*; plains of the Condamine, *Leichhardt*.

N. S. Wales. Common about Port Jackson, *R. Brown*, *Sieber*, *n.* 192, and others; Blue Mountains, *Miss Atkinson*; Hastings and Macleay rivers, *Beckler*; New England, *C. Stuart*.

Victoria. Wooded valleys and banks of streams, common, *F. Mueller*.

Tasmania. Very common in many parts of the colony, *J. D. Hooker*.

S. Australia. Mount Gambier and near Adelaide, *F. Mueller*.

The species ranges from S. China to Loochoo, but I have seen no specimens from the tropical regions intervening between that and Australia.

4. **R. rosæfolius,** *Sm. Ic. Pl. t.* 60. A shrub, with creeping stolons and erect and weak but scarcely climbing stems, glandular-pubescent or rarely glabrous, armed with straight or more frequently recurved prickles. Leaves pinnate; leaflets 5, rarely 3 or 7, ovate-lanceolate, acuminate, coarsely and usually doubly toothed, 1, 2, or even 3 in. long, green and glandular-pubescent on both sides or rarely glabrous. Flowers white, not numerous, in a short terminal panicle or in the upper axils. Bracts narrow, mostly entire. Sepals hoary-tomentose, 3, 4, or rarely 5 lines long, with a long subulate point. Petals spreading. Fruit ovoid or rarely globular, with exceedingly numerous small carpels, very little succulent, and said to have a rather unpleasant resinous flavour.—Ser. in DC. Prod. ii. 556; Bot. Mag. t. 1783 (with double flowers); Hook. Ic. Pl. t. 349; Lodd. Bot. Cab. t. 158; F. Muell. Fragm. iv. 32; *R. eglanteria*, Tratt.; Ser. in DC. Prod. ii. 556.

Queensland. Moreton Bay, *F. Mueller* and others; Broad Sound and Mount Elliott, *Dallachy*.

N. S. Wales. Hawkesbury, Hunter's, and Paterson rivers, *R. Brown*; Blue Mountains, *Miss Atkinson*; northward to New England, *C. Stuart*; Clarence and Hastings rivers, *Beckler*; southward to Illawarra, *Shepherd*; and Twofold Bay, *F. Mueller*.

Victoria. Wooded valleys, Broadribb and Snowy rivers, *F. Mueller*.

The species is widely spread over the warmer regions of Africa and Asia.

5. **R. Moorei,** *F. Muell. in Trans. Phil. Inst. Vict.* ii. 67, *and Fragm.* iv. 29. A tall scrambling shrub, the branches and petioles glabrous or loosely tomentose, with numerous small reflexed prickles. Leaves digitate, with 5 petiolulate leaflets, ovate-lanceolate, acutely acuminate, 3 to 4 in. long, and bordered by regular prickly teeth in the glabrous or slightly pubescent specimens; in the more tomentose ones shorter, broader in proportion, more coriaceous, with shorter teeth, glabrous above, softly velvety or villous underneath. Flowers white, unisexual or polygamous, in loose axillary racemes or raceme-like panicles. Bracts small, entire. Calyx pubescent, very spreading, the segments ovate or oblong, obtuse, 2 to 3 lines long. Fruit (which I have not seen) said to be dark-red and insipid.

N. S. Wales. Grose river, *R. Brown;* Blue Mountains, *Miss Atkinson;* Richmond and Clarence rivers, *C. Moore;* from the Creek Brush to Archer's Station, *Leichhardt;* southward to Illawarra, *A. Cunningham, Backhouse, Ralston.*

The nearest affinity of this species is with the New Zealand *R. australis,* Forst., but the leaves of the latter species, although protean in their forms, never quite resemble those of *R. Moorei;* the flowers are much smaller and very much more numerous, in large panicles, etc.

Several species of *Rosa* are cultivated in gardens, and one, *Rosa rubiginosa,* Linn., the *Sweetbriar,* with glandular-pubescent aromatic leaves and pink flowers, is said to have established itself, apparently wild, in South Australia.

6. ALCHEMILLA, Linn.

Calyx-tube ovoid or campanulate; lobes 4, valvate, with 4 small external accessary lobes alternating with them. Petals none. Stamens 4 or fewer, inserted round an annular disk at the mouth of the calyx. Carpels 1 to 4, enclosed in the calyx-tube, with 1 ascending ovule in each; style from the base or inner side of the carpel, protruding from the calyx-tube, with a capitate stigma. Achenes 1 to 4, 1-seeded, enclosed in the calyx-tube.—Herbs, either annual or with a perennial sometimes almost woody stock and annual flowering stems, or, in species not Australian, perennial tufted undershrubs. Leaves palmately lobed or divided. Flowers small, green, in terminal panicles or axillary clusters.

The genus is not numerous in species, widely spread over the northern hemisphere, confined to mountains within the tropics, extending down the Andes to extratropical S. America, one or two species found also in S. Africa and New Zealand. The two Australian species are common in temperate or mountain regions, especially in the Old World.

Perennial. Flowers in terminal panicles. Leaves orbicular, broadly lobed 1. *A. vulgaris.*
Small annual. Flowers minute, in axillary clusters. Leaves small, deeply lobed . . . . 2. *A. arvensis.*

1. **A. vulgaris,** *Linn.; DC. Prod.* ii. 589. A perennial, either glabrous or more or less hairy. Radical leaves large, on long petioles, broadly orbicular or reniform, divided only to one-fourth or one-third of their depth into 7 or 9 broad regularly toothed lobes, green on both sides. Flowering stems decumbent or ascending, seldom above 6 in. high, bearing a few leaves on short petioles, with large green toothed stipules and a loose panicle of small green flowers, the pedicels usually at least as long as the calyx.—Wight, Ic. t. 229.

Victoria. Haidinger range, sources of the Mitta-Mitta, Murray, and Snowy rivers, in the Australian Alps, *F. Mueller.* The species is common in Europe, N. Asia, and the mountains of E. India.

2. **A. arvensis,** *Scop.; DC. Prod.* ii. 590. A little annual, rarely above 2 or 3 in. high and often smaller, much branched, green, and hairy. Leaves on short petioles, orbicular, usually deeply lobed or divided. Flowers very minute, green, sessile, in little clusters or heads in the axils of the leaves, half enclosed in the leafy stipules.

Victoria. Mount Korong, *F. Mueller;* Wendu Valley, *Robertson.*
S. Australia. Mountain pastures, Rivoli Bay, *F, Mueller.*
Tasmania. Derwent river, *R. Brown;* various parts of the island, probably introduced, *J. D. Hooker.*

The species is common in the northern hemisphere in the Old World, and in various parts

of N. and S. America and Africa, and is also found in New Zealand; but in the latter country, and in some, if not all, the Australian stations, very probably introduced from Europe.

7. ACÆNA, Linn.

(Ancistrum, *Forst.*)

Calyx-tube ovoid or campanulate; lobes usually 4 or 5, but varying from 3 to 7, valvate. Petals none. Stamens 2 to 10. Carpels 1 or rarely 2, enclosed in the calyx-tube, with 1 pendulous ovule in each; style terminal or nearly so, protruding from the calyx-tube, usually dilated into an oblique fringed stigma. Achene solitary, dry, enclosed in the hardened tube of the calyx, which is usually closed at the top and more or less awned with subulate or conical spines, often glochidiate at the end.—Herbs, with a perennial tufted stock. Leaves radical or alternate, pinnate, with toothed or cut leaflets. Stipules sheathing at the base. Flowers hermaphrodite or polygamous, small, green or purplish, in a terminal globular head, or in an elongated or interrupted spike, the flowering-stem either leafy or reduced to a leafless scape.

The genus is dispersed over the temperate and colder regions of the southern hemisphere; it is especially abundant in S. America, and occurs also in California, Mexico, and the Sandwich Islands. Of the three Australian species, two are apparently also natives of S. America and New Zealand, the third is probably endemic.

The genus has been divided into two sections, *Euacæna*, with the fruiting calyx more or less angular, the spines, when present, one only to each angle; and *Ancistrum*, with the calyx ovoid, irregularly covered with numerous spines or tubercles. In the former the flowers are usually capitate, but spicate in a few species, in the latter they are spicate in most if not all species. There are a few species however, (not Australian,) with the spines not developed, and ambiguous between the two sections.

Spike cylindrical or elongated and interrupted. Stamens 4 to 10.
  Spines of the fruiting calyx numerous, irregularly scattered . . . 1. *A. ovina.*
Heads globular. Stamens 2. Spines of the fruiting calyx 4, 1 to each angle.
  Calyx-lobes united at the base, usually persistent. Fruiting head above ½ in. diameter, with long glochidiate spines . . . . . . 2. *A. sanguisorbæ.*
  Calyx-lobes separately deciduous. Fruiting heads not ¼ in. diameter, with very short fine spines . . . . 3. *A. montana.*

1. **A. ovina,** *A. Cunn. in Field, N. S. Wales*, 358. Stems ascending or erect, leafy, 1 to 2 ft. high, silky-hairy. Leaflets ovate, from orbicular to oblong, ¼ to ¾ in. long, deeply and obtusely crenate or pinnatifid, glabrous above, silky-hairy underneath. Flowers in a long interrupted spike, more dense towards the end, polygamous. Calyx-lobes usually 5, rarely 4, 6, or 7. Stamens in the males either about as many or 8 to 10, in the females reduced to minute staminodia, or 1 or 2 of them filiform, without anthers. Ovary in the females with a single or rarely 2 ovules; style obliquely dilated at the end, with a broad unilateral fringed stigma. Fruit ovoid, 2 to 3 lines long, glabrous or loosely villous, covered with short prickles, barbed at the end and irregularly arranged, 2 or 3 of them usually longer than the others, with a conical base.—Hook. f. Fl. Tasm. i. 115; *A. echinata*, Nees in Pl. Preiss. i. 95; *A. Behriana*, Schlecht. Linnæa, xx. 660 (calyx often 6- or 7-lobed, stamens often 10).

Queensland. Near Warwick, *Beckler.*

N. S. Wales. Port Jackson, *R. Brown, Woolls*; frequent in rather moist pastures in the western country, *A. Cunningham*; head of the Gwydir, *Leichhardt.*

Victoria. I have seen no specimens from this colony, where, however, it is, no doubt, to be found.

Tasmania. Pastures, especially in the northern parts of the island, *J. D. Hooker.*

S. Australia. Memory Cove, *R. Brown*; grassy plains, Barossa range, and Spencer's Gulf, *F. Mueller.*

W. Australia. Shady rocks, Mount Brown, *Preiss, n.* 2395; King George's Sound, Bald Island, and Cape Naturaliste, *Oldfield.*

The species extends to New Zealand, and probably also to extratropical S. America, for *A. montevidensis*, Hook. f. Fl. Antarct. ii. 265, appears to be quite the same.

2. **A. sanguisorbæ,** *Vahl; DC. Prod.* ii. 492. Stems prostrate or creeping and rooting at the nodes, the flowering branches ascending from a few in. to nearly 1 ft., loosely silky-villous, leafy at the base. Leaflets from nearly orbicular and ¼ in. long to oblong and ¾ in., prominently toothed, glabrous or nearly so above, silky-hairy underneath. Flowers numerous, in dense globular heads, on long terminal peduncles, usually under ½ in. diameter at the time of flowering, becoming when in fruit dense globular burrs of ¾ in. diameter or more. Calyx-lobes usually 4. Stamens 2. Style with the fringed stigma of *A. ovina.* Fruiting calyx nearly 2 lines long, turbinate, the lobes 4-angled, with a long prickle barbed at the end, diverging from near the summit of each angle.—Hook. f. Fl. Tasm. i. 114; *A. sarmentosa*, Carmich.; DC. l. c.

N. S. Wales. Port Jackson, *A. Cunningham*; Blue Mountains, *Miss Atkinson*; head of Gwydir river, *Leichhardt*; Hastings river, *Beckler*; southward to Illawarra, *A. Cunningham*; Gabo Island, *Maplestone.*

Victoria. Port Phillip, *R. Brown*; near Skipton, *J. S. Whan.*

Tasmania. Port Dalrymple, *R. Brown*; common in pastures on roadsides, etc., throughout the colony, *J. D. Hooker.*

S. Australia. Kangaroo Island, *R. Brown*; Guichen Bay and Torrens river, *F. Mueller.*

The species is also found in New Zealand, Tristan d'Acunha, and Lord Auckland's Isles, and it is perhaps not really distinct from the S. American *A. oxalifolia*, Ruiz and Pav.

┌ 3. **A. montana,** *Hook. f. in Hook. Lond. Journ.* vi. 276. A small species, tufted or shortly prostrate, glabrous except a few silky hairs on the petioles, midribs, and margins of the leaflets and sometimes on the peduncles. Leaflets ovate, strongly serrate, mostly about ¼ in. long. Flowering stems ascending, leafless or with 1 or 2 small distant pinnatifid or pinnate leaves and a small terminal globular head, rarely above ¼ in. diameter. Calyx nearly glabrous, the lobes ovate, separating from the base and very deciduous. Stamens 2. Stigma short. Fruiting calyx not 1 line long, obovoid, glabrous, with 4 slender spines not 1 line long, and the top of the calyx-tube conical between them.

Tasmania. Moist summit of the Table Mountain on the Derwent, *R. Brown*; summit of Mount Wellington, *J. D. Hooker*, and of Mount Lapeyrouse, *C. Stuart.* J. D. Hooker, Fl. Tasm. i. 115, unites this as a variety with *A. sanguisorbæ*; but, independently of the foliage, the fruiting calyx appears to me to be quite different, and to bring it nearer to *A. adscendens*, Vahl. R. Brown's herbarium contains specimens of a dwarf alpine form of *A. sanguisorbæ*, from the Table Mountain, growing in company with *A. montana*, and quite maintaining its characters, as pointed out in his notes.

Poterium Sanguisorba, Linn., a herb with the habit and globular inflorescence nearly of

A. sanguisorbæ, but with strictly monœcious flowers, more numerous and longer stamens, and the fruiting calyx without prickles, is said to have established itself in some parts of Victoria, introduced from Europe.

ORDER XLII. SAXIFRAGEÆ.

Calyx free or adnate to the ovary, with 4 or 5 valvate or imbricate lobes or segments. Petals as many as calyx-lobes, valvate or imbricate, sometimes very small or wanting. Stamens as many or twice as many as calyx-lobes, rarely fewer and very rarely indefinite, inserted with the petals on or outside a perigynous or epigynous disk or rarely hypogynous. Ovary more or less adnate to the calyx, or if free usually attached by a broad base, either 2- to 5-celled or with 2 to 5 parietal placentas, very rarely contracted at the base or apocarpous; ovules usually several, very rarely solitary in each cell or to each placenta; styles as many as cells or placentas, distinct or rarely united. Fruit capsular or very rarely succulent and indehiscent. Seeds usually small, with a copious albumen and small or terete straight embryo, very rarely larger and without albumen.—Herbs shrubs or trees. Leaves alternate or opposite, simple or compound, with or without stipules. Flowers usually regular and hermaphrodite.

A large Order, ranging over nearly the whole world, the shrubby or arborescent genera chiefly tropical, the herbaceous ones from the more temperate or colder regions of the northern hemisphere, with a few extratropical southern genera or species. Of the 20 Australian genera, 1 is widely dispersed over the tropical and subtropical regions of the New and the Old World, 1 spreads over E. India and the Archipelago, 1 is represented in extratropical S. America, 2 in New Caledonia, 1 in New Zealand and the antarctic regions generally, 2 in New Zealand alone, and the remaining 12, many of them monotypic, are endemic in Australia. The Order includes a great variety of forms, evidently connected with each other, but difficult to unite by a common character which shall separate them from several other Calycifloral and some Thalamifloral Orders into which they appear sometimes to pass. There is especially no one character to distinguish them from *Rosaceæ* which has not some exception, although the greater number of genera differ from that Order in their definite stamens, united carpels with free styles, and copious albumen.

TRIBE I. **Escallonieæ.**—*Shrubs or trees. Leaves alternate (except* Polyosma). *Stipules none. Stamens as many as calyx-segments. Styles usually united or cohering, at least under the stigma.*

Ovary 2- to 5-celled.
  Flowers corymbose. Petals valvate.
    Ovary semi-adnate. Petals fringed inside. Fruit capsular. Leaves white underneath . . . . 1. ARGOPHYLLUM.
    Ovary free. Petals not fringed. Fruit succulent. Leaves green . . . . 2. ABROPHYLLUM.
  Flowers racemose. Petals imbricate. Ovary inferior . . . . . 3. QUINTINIA.
Ovary with 2 parietal placentas. Flowers racemose.
  Petals valvate. Ovary inferior. Fruit succulent, 1-seeded . . . 4. POLYOSMA.
  Petals imbricate. Ovary free. Capsule many-seeded . . . . . 5. ANOPTERUS.

TRIBE II. **Cunonieæ.**—*Shrubs or trees. Leaves opposite (except* Tetracarpæa). *Stipules usually present. Stamens twice as many as calyx-segments or indefinite. Styles free, at least at the top.*

Stamens twice as many as calyx-segments.
  Calyx-segments valvate or rarely slightly imbricate. Flowers solitary, cymose, capitate or paniculate.

Petals none or minute, or small and jagged.
Flowers in dense globular heads. Ovary 2- or 3-celled. Carpels small, follicular . . . . 6. Callicoma.
Flowers solitary. Ovary 2-celled. Fruit oblong, 1-seeded . 7. Anodopetalum.
Flowers few in short loose cymes or panicles or solitary. Ovary 4-celled. Fruit small, 1-seeded, surrounded by the wing-like enlarged calyx-lobes. Stem climbing . . . 8. Aphanopetalum.
Flowers small, numerous, cymose. Ovary 2-celled. Fruit 1-seeded.
Fruit small, surrounded by the wing-like enlarged calyx-lobes. Leaflets 1 or 3, articulate on the petiole . . . 9. Ceratopetalum.
Drupe 1-seeded, the calyx-lobes small, reflexed. Leaves simple, continuous with the petiole . . . . 10. Schizomeria.
Petals narrow, entire, as long as or longer than the calyx.
Flowers in dense false whorls. Capsule terminating in 2 diverging awn-like persistent styles . . . . 11. Acrophyllum.
Flowers very small and numerous, paniculate. Capsule small, turgid, not awned . . . . 12. Ackama.
Calyx-segments more or less imbricate. Flowers racemose.
Ovary and fruit 2- rarely 3-celled . . . . 13. Weinmannia.
Carpels 4, quite free from the first . . . . 14. Tetracarpæa.
Stamens indefinite, more than twice as many as calyx-segments, rarely fewer. Sepals 4.
Sepals valvate. Stamens 10 to 15. Ovary 2-celled. Seeds winged. Flowers racemose . . . . 15. Geissois.
Sepals much imbricate. Stamens very numerous. Ovary 5- to 12-celled. Seeds winged. Flowers large, solitary . . . . 16. Eucryphia.
Sepals valvate or slightly imbricate. Stamens few or numerous. Ovary 2-celled. Seeds not winged. Flowers solitary. Leaves 3-foliolate (leaflets apparently in whorls of 6) . . . . 17. Bauera.

Tribe III. **Saxifrageæ.**—*Herbs. Leaves in the Australian genera radical, alternate, or imbricate, without stipules.*

Leaves and pitchers radical. Scape leafless. Flowers paniculate. Sepals 6, valvate. Petals 0. Stamens 12. Carpels 6, free . . 18. Cephalotus.
Radical leaves entire, stem-leaves alternate, lobed. Flowers cymose. Calyx-lobes petals and stamens 5. Ovary 2-celled . . . . . 19. Eremosyne.
Small tufted plant with densely imbricate leaves. Flowers solitary, sessile. Calyx-lobes and petals 5. Stamens 2. Ovary inferior, 2-celled . . . . 20. Donatia.

Tribe I. Escallonieæ.—Trees or shrubs. Leaves alternate or rarely (in *Polyosma*) more or less opposite. Stipules none. Stamens as many as calyx-segments. Styles usually united or cohering, at least under the stigma.

1. ARGOPHYLLUM, Forst.

Calyx-tube shortly turbinate or hemispherical, adnate to the ovary; lobes 5 or 6, persistent. Petals as many, valvate, persistent, fringed inside below the middle with long hairs, forming a corona. Stamens as many as petals; anthers usually shorter than the filaments. Disk scarcely prominent. Ovary half-adnate, 2- to 5-celled, with numerous ovules in each cell; style shortly conical, with a capitate shortly lobed stigma. Capsule small, coriaceous, 2- to 5-celled, opening loculicidally and sometimes also septicidally into as many or twice as many valves or cells. Seeds minute, globular, reticulate. Em-

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bryo minute in a fleshy albumen.—Shrubs. Leaves alternate, usually white underneath. Flowers small, in terminal or axillary corymbose panicles.

Besides the Australian species, which is endemic, the genus comprises 3 or 4 from New Caledonia.

1. **A. Lejourdanii,** *F. Muell. Fragm.* iv. 33. An elegant shrub of 6 to 7 ft., the branches and inflorescence clothed with a close silky-white or reddish tomentum. Leaves ovate, acuminate, serrate, mostly 5 to 6 in. long, on a petiole of about 1 in., not coriaceous, green and glabrous or with scattered hairs above, silvery-white with a close silky tomentum underneath, the pinnate parallel primary veins, the transverse secondary ones, and smaller reticulations prominent underneath. Panicles terminal or in the upper axils, shorter than the leaves, corymbose or more frequently ovate. Flowers, including the small expanded petals, about 3 lines diameter. Capsule depressed-globular, about 2 lines diameter, usually 2-celled and 4-valved, rarely 3-celled and 6-valved.

Queensland. Mount Elliott, *Dallachy*. The large thin serrate leaves, and their elegant venation on the under side, distinguish this species at once from the New Caledonian specimens of *A. nitidum*, Labill., the plate of which it in some respects resembles.

2. ABROPHYLLUM, Hook. f.

(Brachynema, *F. Muell.*)

Calyx-tube exceedingly short, adnate to the broad base of the ovary; segments 5, spreading, deciduous. Petals 5, valvate, spreading, deciduous. Stamens 5; anthers large, on very short filaments. Ovary free, except the broad base, oblong, 5-furrowed, 5-celled, with many ovules in each cell; stigma sessile, 5-lobed. Berry free, ovoid, 5-celled. Seeds numerous, small, nearly globular; embryo (minute?) in a fleshy albumen.—Shrub. Leaves alternate. Flowers in corymbose panicles, terminal or in the upper axils.

The genus is limited to a single species, endemic in Australia.

1. **A. ornans,** *Hook. f. ms.* A tall handsome shrub, the young shoots and inflorescence pubescent with short appressed hairs. Leaves elliptical or ovate-lanceolate, acuminate, 6 to 9 in. long, with a few short broad mucronate teeth in the upper part, narrowed at the base into a petiole of 1 to 2 in., thin and glabrous or sprinkled with a few appressed hairs on the principal veins underneath. Panicles irregularly dichotomous, much shorter than the leaves. Flowers rather small, yellowish. Calyx-segments triangular-lanceolate, about ½ line long. Petals about 2 lines long. Berries 3 to 4 lines.—*Brachynema ornans*, F. Muell. Fragm. iii. 90.

N. S. Wales. Mount Tomah, Blue Mountains, *A. and R. Cunningham;* Richmond river, near Ballina, *C. Moore*. Dr. Hooker had described the genus for the 'Genera Plantarum' when the specimen and character arrived from F. Mueller, whose specific name he consequently adopted, but the generic name was preoccupied by a curious Brazilian genus allied to *Ebenaceæ*, described and figured in the 'Linnean Transactions,' xxii. 126, t. 22.

3. QUINTINIA, Alph. DC.

Calyx-tube obconical, adnate to the ovary, with 5 persistent teeth. Petals 5, imbricate, deciduous. Stamens 5; anthers ovate. Ovary inferior, 3- to 5-

celled, with several ovules in each cell, the free summit broadly conical, tapering into a persistent 3- to 5-furrowed style, with a capitate 3- to 5-lobed stigma. Capsule inferior, opening at the summit in teeth or valves continuous with the styles, which separate up to the stigma. Seeds ascending, long, spindle-shaped, with a loose testa; embryo (very minute?) in a fleshy albumen.—Glabrous trees or shrubs. Leaves alternate, coriaceous, without stipules. Flowers small, white, in racemes, either simple in the axils or several forming a terminal panicle.

Besides the 2 following species, which are endemic in Australia, there are 2 in New Zealand.

Racemes in a terminal leafless panicle . . . . 1. *Q. Sieberi.*
Racemes simple, axillary . . . . 2. *Q. Verdonii.*

1. **Q. Sieberi,** *A. DC. Monogr. Camp.* 90, *and in DC. Prod.* iv. 5. A spreading tree of 30 to 40 ft. Leaves oval-elliptical, shortly acuminate, mostly 3 to 4 in. long, entire, narrowed into a petiole of about ½ in., coriaceous, reticulate. Racemes numerous, in a terminal panicle, scarcely longer than the last leaves. Pedicels very short, rarely 1 line long. Calyx-lobes very short and broad. Petals oval-oblong, spreading, about 2 lines long. Styles separating in the ripe capsule up to the stigmas, which remain united. Seeds obovate or oblong, with a loose reticulate testa, but not winged.—Endl. in Flora, 1832, ii. 389, t. 3, and Atakta, 10, t. 10 (the plate wanting in our copy); F. Muell. Fragm. ii. 126.

N. S. Wales. Blue Mountains, *Sieber, n.* 261, *A. Cunningham*, and others; southward to Illawarra, *A. Cunningham*; and the dividing range towards the Yowaka, *Leichhardt.*

2. **Q. Verdonii,** *F. Muell. Fragm.* ii. 125. Very near *Q. Sieberi*, the leaves of the same shape and size, but much less reticulate. Racemes in the specimens seen all simple and solitary in the upper axils, 3 to 4 in. long. Flowers rather smaller than in *Q. Sieberi*, on pedicels about 2 lines long. Calyx lobes narrower, about half as long as the petals. Capsule smaller than in *Q. Sieberi*. Seeds small, ovoid-oblong, obtuse, not winged.

N. S. Wales. Macleay and Hastings rivers, *Beckler.*

4. POLYOSMA, Blume.

Calyx-tube ovoid, adnate to the ovary, the limb small, 4-toothed, persistent. Petals 4, valvate, linear, erect and frequently cohering in a tube, spreading at the end, deciduous. Stamens 4; anthers linear, erect. Ovary inferior, 1-celled, with numerous ovules attached to 2 parietal placentas, protruding far into the cavity and almost dividing it into 2 cells; style filiform, with an entire terminal stigma. Berry ovoid, inferior, with a single large erect seed; testa rather thick; embryo small, in the summit of a fleshy albumen.—Trees. Leaves opposite or nearly so, usually turning black in drying. Flowers white or greenish, in terminal simple racemes.

Besides the Australian species, which is endemic, the genus comprises several from E. India, the Archipelago, and S. Pacific Islands.

1. **P. Cunninghamii,** *J. J. Benn. Pl. Jav. Rar.* 196. A tall shrub or small tree, quite glabrous except the inflorescence and flowers. Leaves ovate-

elliptical, acuminate acute or rarely obtuse, 3 to 4 in. long, irregularly notched with callous teeth, much narrowed into a short petiole, somewhat coriaceous, penniveined. Racemes usually shorter than the leaves. Pedicels 1 to 2 lines long, with 2 minute bracteoles under the ovary. Calyx-teeth small. Corolla about 5 lines long, slightly pubescent outside with appressed hairs, the petals remaining long coherent in a narrow tube. Fruit ovoid, above $\frac{1}{2}$ in. long, crowned by the small persistent cup-shaped calyx-limb.

N. S. Wales. Illawarra, *A. Cunningham, M'Arthur;* near Grafton, Clarence river, *Beckler.*

5. ANOPTERUS, Labill.

Calyx-tube very short, adnate to the broad base of the ovary; lobes 6 to 9, short, persistent. Petals as many as calyx-lobes, imbricate, spreading, deciduous. Stamens as many as petals; anthers versatile. Ovary free, except the broad base, 1-celled, with several ovules attached to 2 parietal placentas; style 2-lobed, the lobes stigmatic along the inner side. Capsule oblong-conical, thickly coriaceous, opening in 2 recurved valves with the placentas on their margins. Seeds pendulous, imbricate, flattened; testa membranous, dilated at the hilum end into a broad membranous wing, the nucleus at the opposite end small, oblong; embryo minute, in a fleshy albumen.—Shrubs or small trees, quite glabrous. Leaves alternate, evergreen, coriaceous, without stipules. Flowers white, rather large, in short terminal racemes.

The genus is endemic in Australia.

Flowers mostly 6-merous. Capsule not exceeding $\frac{3}{4}$ in. . . . . . 1. *A. glandulosus.*
Flowers mostly 8- or 9-merous. Capsule 1 in. long or more . . . 2. *A. Macleayanus.*

1. **A. glandulosus,** *Labill. Pl. Nov. Holl.* i. 86, *t.* 112. A handsome evergreen shrub, in some localities growing into a tree of 30 to 40 ft. Leaves chiefly at the ends of the branches, from elliptical-lanceolate to almost obovate, but usually narrow, shortly acuminate, mostly 4 to 8 in. long, obtusely or callously serrate, narrowed into a very short petiole, coriaceous and shining, penniveined. Racemes 3 to 6 in. long, somewhat drooping. Bracts large, membranous and imbricate at the base of the very young raceme, but soon falling away, those in the raceme small and narrow. Pedicels 3 to 5 lines long. Petals usually 6, ovate, 5 to 6 lines long. Capsule $\frac{1}{2}$ to $\frac{3}{4}$ in. long.—DC. Prod. iv. 6; Hook. f. Fl. Tasm. i. 151; Bot. Mag. t. 4377.

Tasmania. In forests, abundant in many, especially the subalpine parts of the colony, *J. D. Hooker.*

2. **A. Macleayanus,** *F. Muell. in Journ. Pharm. Soc. Vict.* 1859. Very closely allied to *A. glandulosus* in aspect as well as in character, and may prove to be a variety only. Leaves usually rather longer and narrower, more acuminate, on petioles of $\frac{1}{2}$ to 1 in. Calyx-lobes petals and stamens often 8 or 9 each. Capsule and seeds much larger than in *A. glandulosus,* the former from 1 to 1$\frac{1}{2}$ in. long, the seeds $\frac{1}{2}$ to $\frac{3}{4}$ in., including the wing.

Queensland. Mount Lindsay, at an elevation of 4000 to 5000 ft., *W. Hill.*
N. S. Wales. Hastings river, *Beckler;* Clarence river, *C. Moore.*

TRIBE II. CUNONIEÆ.—Shrubs or trees. Leaves opposite (scattered in *Tetracarpæa*). Stipules usually present, but deciduous. Stamens twice as many as calyx-segments or indefinite. Styles free, at least at the top.

6. CALLICOMA, Andr.

(Calycomis, *R. Br.*)

Sepals 4 or 5, free, valvate or the margins slightly imbricate. Petals none. Stamens twice as many as sepals, hypogynous; anthers ovate, versatile. Ovary 2-celled or rarely 3-celled, with several pendulous ovules in each; styles distinct, filiform, each with a minute terminal stigma. Capsule small, separating into distinct carpels opening along the inner edge. Seeds small, ovoid-oblong, tuberculate; embryo very small, in a somewhat fleshy albumen.—Tree or shrub. Leaves opposite, simple. Flowers small, in dense globular heads.

The genus is limited to a single species, endemic in Australia.

1. **C. serratifolia,** *Andr. Bot. Rep. t.* 566. A tall shrub, growing into a tree of 30 to 40 ft., the young shoots often tomentose or villous, the branches soon glabrous. Leaves from elliptical-oblong to ovate-lanceolate, shortly acuminate, coarsely serrate, 2 to 4 in. long, coriaceous, glabrous and shining above, either white underneath with a minute tomentum, or softly tomentose or villous and more rust-coloured, the parallel pinnate veins prominent underneath. Stipules ovate, very deciduous. Flowers numerous, in dense globular heads on peduncles of ½ to 1 in., of which 2 to 4 are usually on a short common peduncle in the upper axils, and several form a terminal cluster or short panicle. Sepals and capsules not above 1½ lines long, tomentose or villous. Stamens more than twice as long.—DC. Prod. iv. 7; Bot. Mag. t. 1811; Lodd. Bot. Cab. t. 1167.

Queensland. Glasshouse Mountains, *F. Mueller* (?) (specimens in leaf only).

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber, n.* 260, and others; New England, *C. Stuart*; Hastings river, *Beckler*.

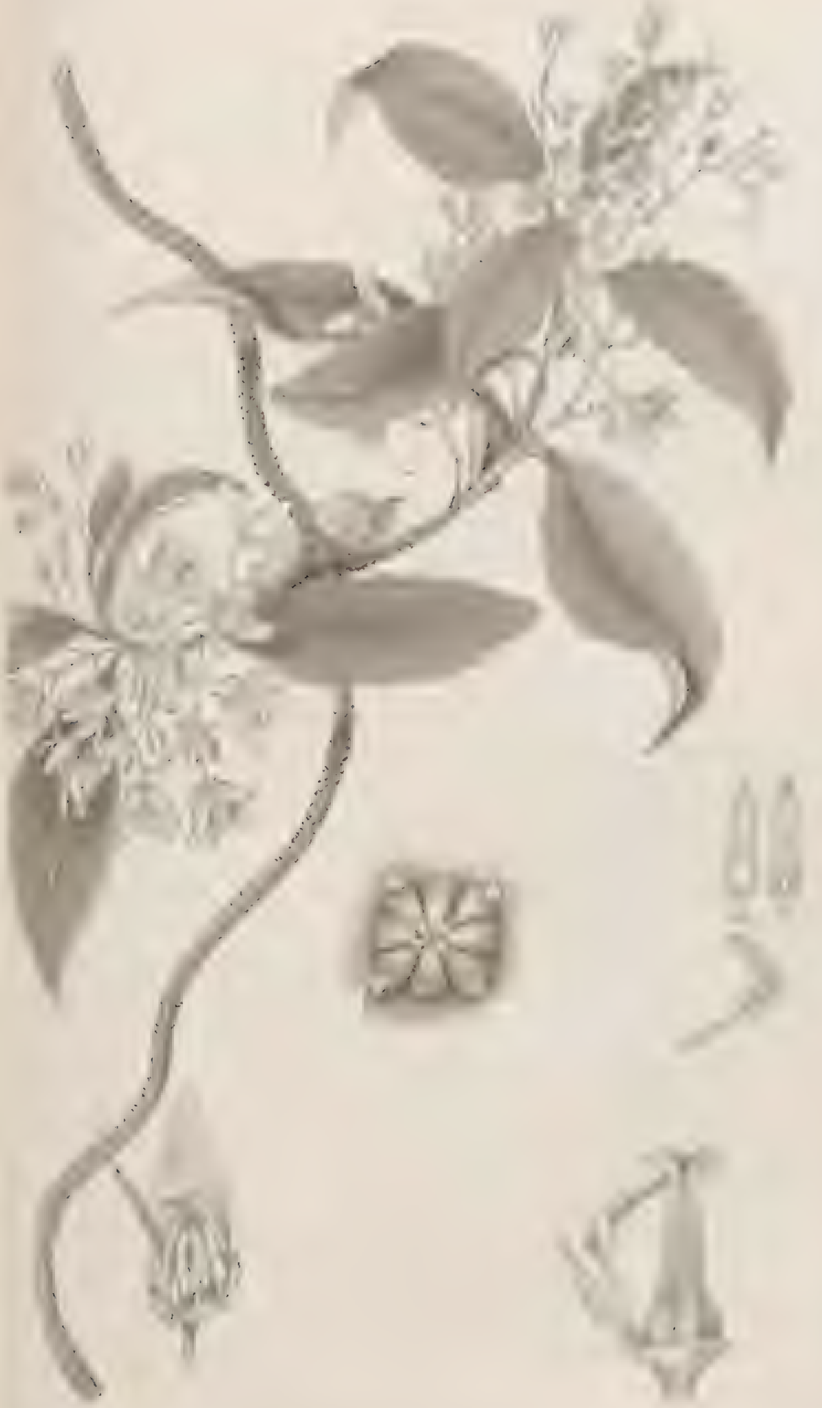
C. ferruginea, D. Don, Cunon. 11, in Edinb. New Phil. Journ. Apr. to June, 1830, with the leaves softly rusty-tomentose or villous underneath, passes into the common form by every gradation.

7. ANODOPETALUM, A. Cunn.

Calyx divided nearly to the base into 4 or 5 valvate lobes. Petals as many, very small. Stamens twice as many, inserted round a prominent disk; anthers small, the connective produced into a linear or conical appendage. Ovary superior, 2-lobed, 2-celled, with few pendulous ovules in each cell; styles diverging. Fruit oblong, fleshy, 1-seeded, probably indehiscent, but not seen ripe.—Tree or shrub. Leaves opposite, simple. Flowers solitary or 2 together in the upper axils.

The genus is limited to a single species, endemic in Australia.

1. **A. biglandulosum,** *A. Cunn. in Hook. f. Fl. Tasm.* i. 148. A tall bushy shrub, growing also into a tree of 50 to 60 ft., quite glabrous; branches very tough; branchlets angular. Leaves petiolate, narrow-oblong or lanceolate, obtuse, with a few obtuse serratures, 1 to 1½ in. long, coriaceous, shining, with few veins. Stipules lanceolate, acuminate, deciduous. Flowers few and inconspicuous, nearly sessile or very shortly pedicellate in the upper axils. Calyx-segments rather broad, about 2 lines long, usually clothed inside with a minute but dense tomentum. Petals much shorter than the calyx, narrow.



Stamens almost as long as the calyx, the appendage of the connective almost as long as the anther. Young fruit about 5 lines long, oblong, fleshy, with a single pendulous seed.

Tasmania. Subalpine districts, often forming a dense and almost impenetrable scrub, *J. D. Hooker.*

8. APHANOPETALUM, Endl.

(Platyptelea, *J. Drumm.*)

Calyx-tube very short, adnate to the broad base of the ovary; lobes 4, slightly imbricate, 2 opposite ones rather larger than the other 2, persistent and enlarged after flowering. Petals none or very minute. Stamens 8; filaments short, anthers oblong, 2-lobed at the base. Ovary 4-furrowed, 4-celled, with 1 pendulous ovule in each cell, tapering into 4 more or less united styles, shortly divergent at the top; stigmas terminal. Fruit hard, small, indehiscent, surrounded at the base by the horizontally spreading wing-like enlarged calyx-segments. Seed solitary, reniform or horse-shoe-shaped, rugose. Embryo curved, in the axis of the fleshy albumen.—Shrubs or trees, with weak or twining branches, quite glabrous. Leaves opposite, simple. Stipules minute or none. Flowers few in short cymes or leafy panicles, or solitary in the axils of the leaves.

The genus is limited to Australia. It is nearly allied to *Ceratopetalum* in character, and especially in the fruit, but with a very different habit.

Leaves ovate-lanceolate or elliptical (Eastern species)	1. *A. resinosum.*
Leaves linear (Western species)	2. *A. occidentale.*

1. **A. resinosum,** *Endl. Nov. Stirp. Dec.* 35, *and Iconogr. t.* 96. Stated by some to be a tree of 30 to 40 ft., by others described as a tall straggling or climbing shrub, quite glabrous, the smaller branches scabrous with raised dots said to be resinous. Leaves ovate lanceolate or elliptical, obtuse or scarcely acuminate, obtusely serrate, 1½ to 3 in. long, acute at the base, on a petiole of 1 to 3 lines, thinly coriaceous, smooth and shining. Peduncles axillary, sometimes 3-flowered, the central pedicel without bracteoles, the 2 lateral ones bracteolate, or all bracteolate and an additional pair lower down, or the inflorescence further developed into a short dense more or less leafy panicle. Calyx-lobes at first small, but soon enlarging, and under the ripe fruit oblong-lanceolate, obtuse, about ½ in. long. Petals, when present, quite microscopic. Fruit without the wings scarcely 1½ lines diameter.—F. Muell. Fragm. i. 228.

Queensland. Moreton Bay, *F. Mueller, W. Hill, C. Stuart*; Pine river, *Fitzalan.*
N. S. Wales. Hunter's river, *R. Brown*; Hastings and Macleay rivers, *Beckler*; Illawarra, *A. Cunningham, Ralston*; Twofold Bay, *F. Mueller.*

2. **A. occidentale,** *F. Muell. Fragm.* i. 228. A shrub, with slender twining branches. Leaves linear, entire, 1 to 2 in. long, smooth and shining, the midrib prominent underneath, narrowed into a short petiole or almost sessile. Peduncles filiform, usually 1-flowered, with a pair of bracts below the middle, occasionally 3 flowered. Flowers rather smaller than in *A. resinosum*, the calyx-lobes more obtuse. Petals none. Styles separated much lower than in *A. resinosum.* Fruit nearly the same, the spreading calyx-lobes more oblong or almost obovate, about ¼ in. long.—*Platyptelea clematidea*, J. Drumm. and Harv. in Hook. Kew Journ. vii. 55.

W. Australia. Crevices of limestone rocks, Murchison river and Champion Bay, *Drummond*, 6*th Coll. n.* 94, *Oldfield.*

9. CERATOPETALUM, Sm.

Calyx-tube short, adnate to the base of the ovary; lobes 5, valvate, persistent and enlarged after flowering. Petals small and laciniate or none. Stamens 10, inserted on a perigynous disk; anthers small, the connective produced into a recurved appendage. Ovary short, half-inferior, 2-celled, with 4 collateral ascending ovules in each cell, tapering into 2 more or less united styles, free and recurved at the top; stigmas terminal. Fruit small hard and indehiscent, surrounded by the 5 wing-like horizontally spreading enlarged calyx-lobes. Seed solitary, slightly curved; embryo green, curved, in the axis of a fleshy albumen.—Trees or shrubs, glabrous and resinous. Leaves opposite, with 1 or 3 digitate leaflets articulate on the petiole. Stipules very small. Flowers small, in terminal trichotomous cymes or corymbose panicles.

The genus is limited to Australia.

Leaflets 3. Petals lobed . . . . 1. *C. gummiferum.*
Leaflets usually solitary. Petals none . . . . 2. *C. apetalum.*

1. **C. gummiferum,** *Sm. Bot. Nov. Holl. t.* 3. A tree attaining 30 to 40 ft. Leaflets 3, lanceolate, in some specimens all under $1\frac{1}{2}$ in. long, in others mostly twice that size, obtuse or obtusely acuminate, obtusely serrulate, narrowed at the base, coriaceous, shining, penniveined and strongly reticulate. Cymes or panicles loosely trichotomous, the common peduncle shorter or longer than the leaves. Calyx-lobes in flower scarcely above 1 line long, in fruit linear-oblong, fully $\frac{1}{2}$ in. long. Petals rather shorter than the calyx, deeply cut into 3 to 5 very narrow lobes. Stamens as long as the calyx. Fruit without the wings above $1\frac{1}{2}$ lines diameter, the adnate calyx-tube strongly ribbed.—DC. Prod. iv. 13.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 260, and others.

2. **C. apetalum,** *D. Don, Cunon.* 11, *in Edinb. New Phil. Journ. Apr. to June*, 1830. A beautiful tree of 50 to 60 ft., with a shining silvery bark. Leaflets usually solitary (occasionally 3 on luxuriant shoots or perhaps young trees), from ovate-lanceolate to narrow-lanceolate, 3 to 5 in. long, or nearly twice that size on luxuriant barren branches, obtusely serrate, coriaceous, shining, narrowed at the base, articulate on a petiole of $\frac{1}{2}$ to 1 in. Flowers numerous in rather dense corymbose cymes, usually shorter than the last leaves, sometimes slightly pubescent. Calyx-lobes acute, above 1 line long in flower, scarcely above $\frac{1}{4}$ in. in fruit. Petals none. Appendage of the connective of the anthers smaller and straighter than in *C. gummiferum.*

N. S. Wales. Grose river, *R. Brown;* Port Jackson and especially in the Blue Mountains, *A. and R. Cunningham*, and others; Illawarra, *Shepherd.*

C. montanum, D. Don, Cunon. 11, was established on narrow-leaved specimens which do not otherwise differ from the common form.

10. SCHIZOMERIA, D. Don.

Calyx-tube short, adnate to the base of the ovary; lobes 5, valvate, not enlarged after flowering. Petals small, toothed. Stamens 10, inserted out-

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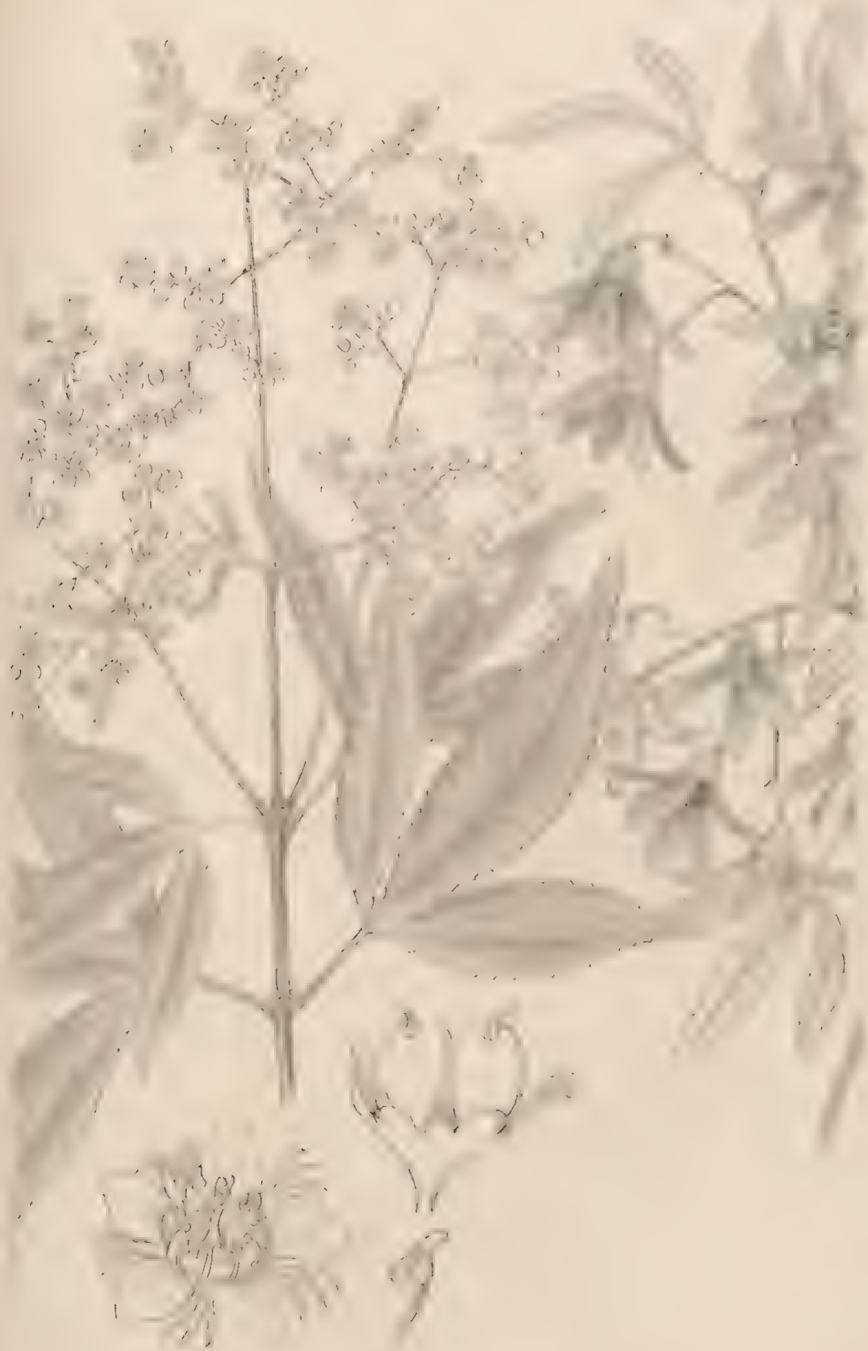

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side a lobed disk; anthers ovate, the connective produced into a short conical appendage. Ovary short, free except the broad base, 2-celled, with 4 ovules in each cell attached to a pendulous placenta; styles distinct, short, recurved, with terminal stigmas. Fruit a drupe, with the small calyx-lobes reflexed from its base; epicarp thick and fleshy; endocarp bony. Seed solitary, somewhat curved; embryo green, rather large, in a fleshy albumen.—Tree. Leaves opposite, simple. Stipules small. Flowers small, in terminal trichotomous cymes.

The genus is limited to a single species, endemic in Australia, and very nearly allied to *Ceratopetalum* in habit and flowers, but the fruit is different, and the leaves truly simple, the lamina continuous with the petiole.

1. **S. ovata,** *D. Don, Cunon.* 12, *in Edinb. New Phil. Journ. Apr. to June,* 1830. A tree attaining 50 ft., with a dense foliage of a light green. Leaves ovate or ovate-lanceolate, obtuse or acuminate, mostly 3 to 4 in. long, nearly entire or with irregular obtuse serratures, shortly narrowed at the base and continuous with the petiole, coriaceous, penniveined and reticulate. Flowers rather smaller than those of *Ceratopetalum apetalum*, and the cymes usually looser, but otherwise much resembling them. Calyx-lobes scarcely above 1 line long. Petals shorter than the calyx, broad and toothed or lobed at the end. Drupe ovoid or globular, under ½ in. diameter.

N. S. Wales. Port Jackson, *R. Brown*; Blue Mountains, *Miss Atkinson*; northward to Macleay and Hastings rivers, *Beckler*; southward to Illawarra, *A. Cunningham*.

11. ACROPHYLLUM, Benth.

(Calycomis, *D. Don, not of R. Brown.*)

Calyx divided almost to the base into 4 to 6, usually 5, valvate segments. Petals as many, entire, exceeding the calyx. Stamens twice as many as petals, inserted round the slightly crenate disk; anthers small. Ovary free, 2-lobed, 2-celled, with several ovules in each cell; styles 2, subulate. Capsule small, septicidally dehiscent, the valves or carpels terminating in the long, persistent, straight but divergent awn-like styles. Seeds few, globular.—Shrub. Leaves opposite or verticillate, simple. Flowers in dense axillary clusters (reduced cymes), the 2, opposite ones forming a false whorl.

The genus is limited to a single species, endemic in Australia.

1. **A. venosum,** *Benth. in Maund, Botanist*, ii. 95. An elegant, erect, glabrous shrub, with slender branches. Leaves opposite or in threes, sessile or very shortly petiolate, ovate or ovate-lanceolate, acute, 2 to 3 in. long, bordered by triangular acute and regular teeth, rounded or truncate at the base, rigid, prominently penniveined and reticulate. Flowers pink, numerous in dense false whorls, each subtended by a pair of floral leaves reduced to bracts, whilst the uppermost leaves of the flowering branch are again large without flowers in their axils. Pedicels filiform, short at the time of flowering, 3 to 4 lines long in fruit. Calyx-segments about 1 line long. Petals rather longer, very narrow. Stamens longer. Capsules slightly exceeding the calyx, the slender rigid divaricate styles at least 2 lines long.—*Weinmannia australis*, A. Cunn. in Field, N. S. Wales, 353; DC. Prod. iv. 9; *Calycomis verticillata*, D. Don, Cunon. 10, in Edinb. New Phil. Journ. April to

June, 1830; *Acrophyllum verticillatum*, Hook. Bot. Mag. t. 4050; *Weinmannia venosa*, Knowl. and Westc. Fl. Cab. t. 65, according to Walp. Rep. ii. 373.

N. S. Wales. Moist shaded rocks, Springwood, Blue Mountains, rare, *A. and R. Cunningham.* Don was in error in supposing this to be the *Calycomis* mentioned by R. Brown in the Appendix to Flinders's Voyage; that was merely the orthography adopted by R. Brown for the genus *Callicoma* of Andrews. The plant described by A. Cunningham has not been hitherto recognized, owing to De Candolle having misunderstood his expression "foliis ternatis," and rendered it "foliis trifoliolatis."

12. ACKAMA, A. Cunn.

Calyx-tube short, campanulate; lobes 5, valvate. Petals 5. Stamens 10, inserted round a crenate disk; anthers small, tipped by a minute gland-like appendage to the connective. Ovary free, 2-celled, with several ovules in each cell; styles filiform, deciduous. Capsule small, turgid, septicidally dehiscent. Seeds few, ovoid, hairy; embryo cylindrical in the axis of a fleshy albumen.—Trees. Leaves opposite, pinnate. Flowers small, very numerous, in compound panicles, in terminal pairs, becoming axillary by the elongation of the central shoot.

Besides the Australian species which is endemic, the genus comprises another from New Zealand. The inflorescence, which is uniformly racemose in *Weinmannia*, being paniculate in both species of *Ackama*, gives them a habit so different from that of *Weinmannia*, that when coupled with the valvate calyx and the shape of the fruit, there seems to be quite sufficient to maintain *Ackama* as a distinct genus rather than as a section of *Weinmannia*, as proposed by A. Gray.

1. **A. Muelleri,** *Benth.* A tree, glabrous or nearly so except the inflorescence. Leaflets usually 5, rarely 7 or 3, ovate-elliptical or ovate-lanceolate, acuminate, obtusely and very shortly serrate, usually 3 to 4 in. long but sometimes much larger, narrowed at the base and more or less petiolulate, somewhat coriaceous, penniveined, with usually a minute tuft of hairs in the axils of the principal primary veins underneath. Flowers very small and numerous, clustered along the short ultimate branches of a very compound panicle, the branchlets all minutely pubescent. Calyx about ½ line long. Petals slightly exceeding the calyx-lobes. Stamens exserted. Capsule ovoid-globular, 1 to 1½ lines long.—*Weinmannia paniculata*, F. Muell. Fragm. ii. 83, altered to *W. paniculosa*, l. c. 175.

N. S. Wales. Hastings and Clarence rivers, *Beckler.*

13. WEINMANNIA, Linn.

Calyx divided almost to the base into 4 or 5 more or less imbricate segments. Petals as many as calyx-segments. Stamens twice as many as petals, inserted round the disk; anthers small. Ovary free, 2- or rarely 3-celled, with several pendulous ovules in each cell; styles distinct, each with a terminal or decurrent stigma. Capsule oblong or ovoid, septicidally dehiscent. Seeds oblong reniform or nearly globular, usually (but not always) hairy; embryo in the axis of a fleshy albumen.—Trees or shrubs. Leaves opposite, simple, or digitately or pinnately compound, with 3 or more leaflets. Flowers in simple racemes, terminal or axillary, solitary or clustered.

A genus widely distributed over the warmer regions of the globe, extending into extra-

tropical S. America, S. Africa, and New Zealand. The only Australian species is endemic, but as yet insufficiently known to be quite certain as to its genus.

1. **W. rubifolia,** *F. Muell.* (*under* Geissois). A small tree, the young branches inflorescence and veins of the leaflets more or less clothed with long fine hairs. Leaflets 3 or 5, digitate, ovate-elliptical, acuminate, sharply serrate, much narrowed into a petiolule, rigid but not thick, the primary parallel veins very prominent underneath, with transverse reticulations, the terminal one usually 2 to 3 in. long, or rarely more, the lateral ones smaller. Stipules large, hairy, deciduous. Racemes axillary, usually several together on a very short common peduncle, $1\frac{1}{2}$ to 3 in. long when in fruit. Flowers not seen. Pedicels very short or scarcely any. Sepals shorter than the fruit. Capsules reflexed, $1\frac{1}{2}$ to nearly 2 lines long, narrow, hairy, with 2, rarely 3, recurved styles, the stigmas shortly decurrent. Seeds 2 or 3 in each carpel, narrow-oblong, the testa more or less extended into a loose wing at one or both ends, or, in some seeds the nucleus appears to extend nearly the whole length.—*Geissois rubifolia*, F. Muell. Fragm. ii. 82.

N. S. Wales. Cloud's Creek, a tributary of Clarence river, *Beckler*. The flowers being unknown, the genus is somewhat doubtful. The inflorescence and fruit are quite those of *Weinmannia*, except that the capsules are more pendulous than is usual in that genus. The foliage and habit scarcely differ from those of a Feejee plant, which we take to be the *Weinmannia spiræoides*, A. Gray, but of which the perfect flowers and fruit are unknown. The *W. rubifolia* is, however, certainly not a *Geissois*.

14. TETRACARPÆA, Hook. f.

Sepals 4, quite free, imbricate. Petals 4, imbricate. Stamens 8, hypogynous, anthers oblong, erect. Carpels 4, distinct, narrowed at the base, with numerous ovules in each; styles short, each with an obtuse stigma. Fruit carpels opening along the inner edge. Seeds numerous, obovoid; testa loose, membranous; embryo minute in a fleshy albumen.—Shrub. Leaves scattered. Flowers in terminal racemes.

The genus is limited to a single species, endemic in Australia. It had been referred by Endlicher to *Dilleniaceæ* on account of the hypogynous stamens and erect anthers, but the foliage and habit, the seeds and several other characters, are entirely those of the *Cunonieæ* or woody *Saxifrageæ*, in other genera of which a gradual passage may be observed from hypogynous stamens and a free apocarpous pistil to epigynous stamens, and an inferior ovary.

1. **T. Tasmanica,** *Hook. f. in Hook. Ic. Pl. t.* 264, *and Fl. Tasm.* i. 150. A small erect bushy shrub, usually about 1 ft. high, quite glabrous. Leaves obovate-oblong, obtuse, crenate, $\frac{1}{2}$ to 1 in. long, narrowed into a petiole, coriaceous and shining, the midrib prominent underneath, the veins obscure or inconspicuous. Flowers rather small, white, in erect racemes of 1 to 2 in. Bracts small, narrow. Pedicels at first very short, 2 to 3 lines long when in fruit. Petals nearly orbicular, about $1\frac{1}{2}$ lines diameter, on short slender claws. Carpels narrow, erect, about 2 lines long.

Tasmania. Common in subalpine situations, *J. D. Hooker.*

15. GEISSOIS, Labillardière.

Calyx-tube very short, adnate to the broad base of the ovary; segments 4, valvate, deciduous. Petals none. Stamens indefinite, usually 10 to 15, hypogynous, filaments long, anthers ovate. Ovary oblong-conical, 2-celled, with several ascending ovules in each cell; styles filiform, united at the base. Capsule narrow, coriaceous, 2-celled, opening septicidally. Seeds oblong, flat, imbricate, produced upwards into a short wing; embryo in the axis of a fleshy albumen.—Trees. Leaves opposite, digitately compound; leaflets 3 or 5, petiolulate, coriaceous, entire or with distant serratures. Flowers purple or red, usually larger than in *Weinmannia*, in simple lateral racemes.

The genus is from New Caledonia, where there are 3 or 4 species, but there also appears to be an Australian one, although our specimens are insufficient for defining it. A detached raceme of old capsules with the seeds fallen out, from Cloud's Creek, Hastings river, *Beckler*, much resembles those from New Caledonia. These capsules are cylindrical, about ¾ in. long, on short pedicels, the epicarp minutely tomentose, the endocarp more or less separating from it. To the same species may very likely belong some specimens in leaf only (in Herb. F. Muell.) from Hastings river, *Beckler*, and Duck Creek, *C. Moore*. They are glabrous. Leaves opposite, 3-foliolate; leaflets petiolulate, ovate, 6 to 10 in. long, 3 to 5 in. broad, coriaceous, remotely and not deeply toothed, green on both sides. Stipules orbicular, coriaceous, more persistent than in most *Cunonieæ*.

16. EUCRYPHIA, Cav.

(Carpodontos, *Labill.*)

Sepals 4, free, broad and thin but rigid, much imbricate, cohering into a calyptra and falling off together as the flower opens. Petals 4, broad, oblique, much imbricate. Stamens very numerous, hypogynous; anthers small. Ovary free, 5- to 12-furrowed, 5- to 12-celled, with several ovules in each cell; styles distinct, with small terminal stigmas. Capsule hard, ovoid or oblong, septicidally dehiscent, the carpels remaining long attached by the filiform placentas. Seeds few in each carpel, oblong, compressed, produced upwards into a membranous wing.—Trees or shrubs. Leaves opposite, simple or pinnate. Stipules very deciduous. Flowers large, white, solitary in the upper axils.

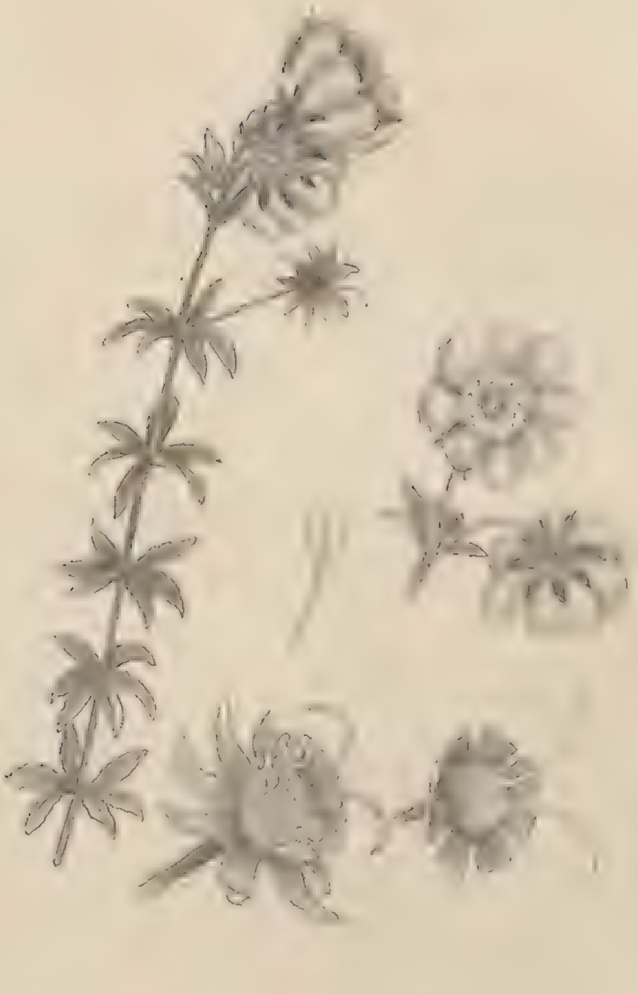
Besides the two Australian species, which are endemic, there are two Chilian ones, and there, as in Australia, one has simple, the other pinnate leaves. The genus is placed by most authors in *Hypericineæ*, from which it differs in foliage, in the presence of stipules and in the albuminous seeds. As suggested by Planchon, it appears to be much nearer to the Cunonieæ, notwithstanding the hypogynous stamens and very much imbricate sepals and petals. The fruit and seeds are very nearly those of *Geissois*, except that the carpels are more numerous.

Leaves simple . . . . 1. *E. Billardieri.*
Leaves pinnate . . . . 2. *E. Moorei.*

1. **E. Billardieri,** *Spach; Hook. f. Fl. Tasm.* i. 54. A handsome tree, attaining a very large size, although the smaller forms are often reduced to a bushy shrub, quite glabrous, the buds and young leaves often very gummy. Leaves simple, shortly petiolate, oblong, very obtuse, entire, coriaceous, glaucous or whitish underneath, 1 to 2 in. long in the larger forms. Flowers white, very showy, the broad petals often 1 in. diameter. Peduncles much shorter than the leaves. Capsules usually about ½ in. long.—*Carpodontos lucida*, Labill. Voy. t. 18; DC. Prod. i. 556.

Tasmania, *R. Brown;* mountainous districts, especially in the interior and towards the S. and W. coasts, *J. D. Hooker.*

Var. *Milligani.* A shrub or small tree, smaller and more compact in all its parts than



Bauera rubioi

V.12.p.407

the typical form, leaves often all under $\frac{1}{2}$ in. long and more crowded; flowers and fruits smaller, but there appears to be no other difference, and many specimens are quite intermediate.—*E. Milligani*, Hook. f. Fl. Tasm. i. 54. t. 8.

2. **E. Moorei,** *F. Muell. Fragm.* iv. 2. A handsome tree, the young shoots and foliage pubescent, the buds very gummy. Leaves pinnate; leaflets usually 9 to 11, narrow-oblong, entire, coriaceous, the terminal one often $1\frac{1}{2}$ to 2 in. long, the lateral ones shorter, the veins more prominent than in *E. Billardieri*. Flowers and fruits quite the same as in the smaller forms of *E. Billardieri*.

N. S. Wales. Wooded hills near the sources of the Clyde and Shoalhaven rivers, *C. Moore*.

17. BAUERA, Banks.

Calyx divided nearly to the base into 6 to 10, rarely 4 or 5, spreading segments, often toothed, valvate or slightly imbricate. Petals as many as calyx-segments. Stamens indefinite, few or numerous, inserted round a narrow disk; anthers short. Ovary wholly or partially free, 2-celled, with 2 or more ovules in each cell; styles distinct, recurved. Capsule superior or half-inferior, broad, truncate, opening loculicidally in 2 valves, or in 4 from the septicidal splitting of the valves. Seeds obovate with a granulate testa; embryo nearly terete, in a fleshy albumen.—Shrubs. Leaves opposite, each with 3 leaflets without any common petiole, so as to have the appearance of a whorl of 6 leaves. Stipules none. Flowers axillary, solitary, but sometimes the pairs crowded in a terminal leafy head.

The genus is limited to Australia. By a mistake of Salisbury's, copied by subsequent authors, the name of the genus has been attributed to Kennedy. In Andrews's 'Botanical Repository,' where it was first published, it is expressly stated that it was named by Banks, without any allusion to Kennedy.

Flowers pedicellate. Ovary superior. Ovules several. Leaves mostly
  serrate . . . . 1. *B. rubioides.*
Flowers sessile.
  Ovary superior. Ovules several, ascending. Leaves mostly 3-toothed 2. *B. capitata.*
  Ovary half-inferior. Ovules 2 in each cell, pendulous. Leaves entire 3. *B. sessiliflora.*

1. **B. rubioides,** *Andr. Bot. Rep. t.* 198. An elegant shrub, sometimes small slender and prostrate, sometimes erect and bushy, attaining 5 or 6 ft. or even more; branches terete, glabrous or more frequently pubescent or hirsute with long fine hairs. Leaflets oblong or lanceolate, rather acute, rarely exceeding $\frac{1}{2}$ in. and sometimes not $\frac{1}{4}$ in. long, evergreen and often shining, marked by a few serratures sometimes deep sometimes obscure or almost disappearing. Flowers pink or white, on slender pedicels, sometimes shorter, but more frequently longer than the leaves. Calyx-segments and petals rarely fewer than 6, and often 8 or 9. Petals longer than the calyx, often twice as long, spreading to a diameter of from $\frac{1}{4}$ to $\frac{3}{4}$ in. Capsule shorter than the persistent calyx, very broad, wholly superior although attached by a broad base, several-seeded.—Vent. Jard. Malm. t. 96; Bot. Mag. t. 715; DC. Prod. iv. 13; Hook. f. Fl. Tasm. i. 149, t. 31; *B. rubiæfolia*, Salisb. in Ann. Bot. i. 514, t. 10; Lodd. Bot. Cab. t. 1313; F. Muell. Fragm. iv. 23; *B. humilis*, Sweet; Lodd. Bot. Cab. t. 1197; DC. Prod. iv. 13; *B. Billardieri*, D. Don, Cunon. 13, in Edinb. New Phil. Journ. Apr. to June, 1830.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 287, and others; very abundant on banks of streams, often in the water, *Lowne;* New England, *C. Stuart.*

Victoria. Wet swampy places and marshy woods, in the southern and eastern parts of the colony, *F. Mueller.*

Tasmania. Derwent river, *R. Brown ;* very abundant throughout the colony, generally in poor wet soil, *J. D. Hooker.*

Var. *microphylla*, Ser. Small, slender and prostrate. Leaflets mostly about 2 lines long. Pedicels long and slender. Flowers small. Petals usually 5 or 6. Stamens few.—*B. microphylla*, Sieb. in DC. Prod. iv. 13; D. Don, Cunon. 13. in Edinb. New. Phil. Journ. Apr. to June, 1830; *B. galioides*, Sieb. in Reichb. Icon. Exot. t. 77.—Port Jackson, *R. Brown*, *Caley*, *Sieber*, *n.* 286, and others. The Tasmanian variety figured in the plate above quoted is not quite so small and slender as Sieber's and some other Port Jackson specimens.

2. **B. capitata,** *Ser. in DC. Prod.* iv. 13. A small shrub, either diffuse, with the habit of the shorter specimens of *B. rubioides*, var. *microphylla*, or with a woody stock and numerous slender stems of ½ ft., slightly pubescent. Leaflets narrow, scarcely above ¼ in. long, obtuse, usually with 1 prominent lobe or tooth on each side. Flowers almost sessile, solitary in each axil, but several pairs close together at the ends of the branches, forming little leafy heads. Calyx-segments 4 to 6, usually 5, about 2 lines long, more distinctly 3-fid than the leaves. Stamens not numerous; anthers small. Ovary free but attached by a broad base; ovules several in each cell, ascending from near the base of the partition. Capsule loculicidal but scarcely septicidal. Seeds rather large, pubescent, rugose, with a prominent raphe.—F. Muell. Fragm. iv. 24.

N. S. Wales. Port Jackson, *R. Brown*, *F. Mueller ;* Hastings river, *Beckler*; Newcastle, *Leichhardt.*

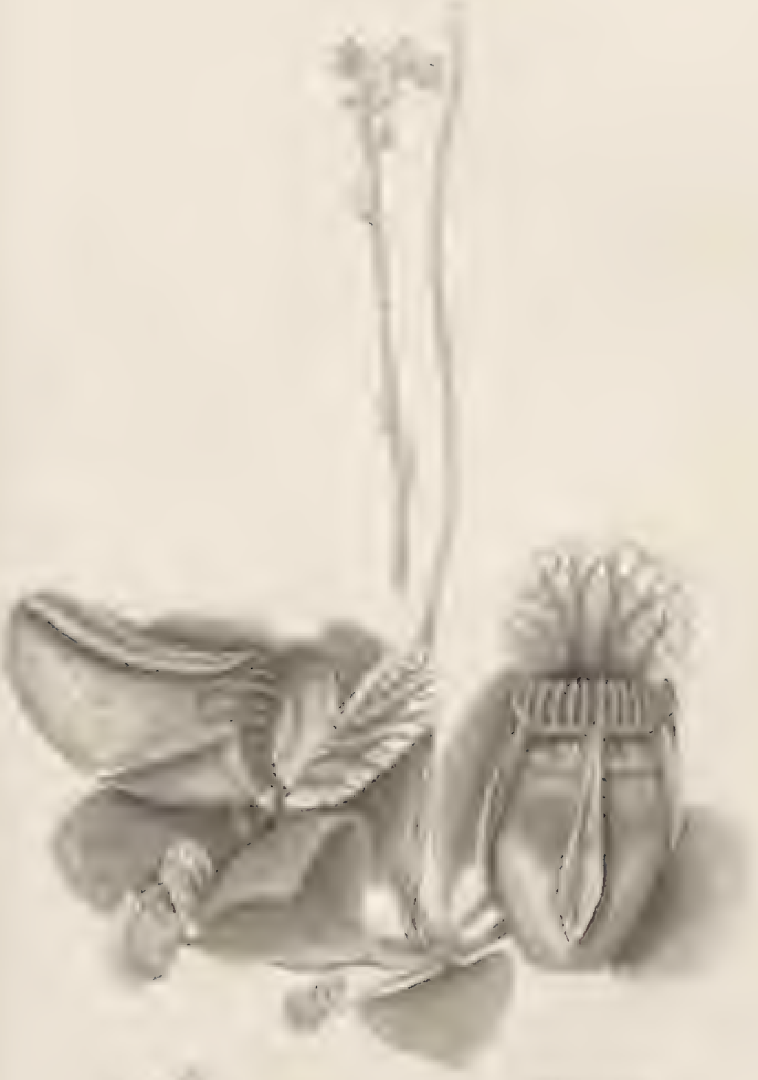
3. **B. sessiliflora,** *F. Muell. in Trans. Phil. Soc. Vict.* i. 41, *and Fragm.* iv. 24. A shrub, with the habit of the larger forms of *B. rubioides*, usually hirsute. Leaflets oblong or almost obovate, obtuse, ½ to 1 in. long or rather more, the margins recurved and usually entire, scabrous pubescent or hirsute. Flowers (purple or pink?) sessile in small axillary leafy clusters or terminal leafy heads. Calyx-tube turbinate, adnate to the ovary; lobes 6 to 9, usually 7 or 8, lanceolate, hirsute, 1 line long or rather more. Petals 2 or 3 times as long. Stamens few, rarely twice as many as petals; anthers larger than in *B. rubioides.* Ovary half-inferior with a very thin dissepiment, and 2 ovules in each cell, suspended from the summit. Capsule not seen ripe, but apparently 1-seeded.—F. Muell. Pl. Vict. ii. t. 16.

Victoria. Crevices of rocks on the summit of Mount William and descending along the streams to the base of the Grampians, frequent at Morro-Morro, *F. Mueller.*

TRIBE III. SAXIFRAGEÆ.—Herbs. Leaves, in the Australian genera, radical, alternate, or imbricate, without stipules. Stamens various. Styles free or shortly united at the base.

18. CEPHALOTUS, Labill.

Calyx-tube short, free, lobes 6, valvate. Petals none. Stamens 12, inserted round a glandular disk; anthers short, with a thick glandular connective. Carpels 6, free, distinct, with 1 or rarely 2 ascending ovules in each, and tapering into short recurved styles. Fruit-carpels small, erect, verticillate



round a globular succulent enlarged torus, opening along the inner edge. Seeds solitary, erect; embryo very small, in the axis of a fleshy albumen.—Herb. Leaves radical, several of them converted into pitchers. Flowers white, in a narrow panicle at the end of a leafless scape.

The genus is limited to a single species, endemic in Australia. The completely apocarpous pistil has induced several botanists to place it in *Rosaceæ*, but the habit, definite stamens, and albuminous seeds, with a small embryo, are much more those of *Saxifrageæ*.

1. **C. follicularis,** *Labill. Pl. Nov. Holl.* ii. 7, *t.* 145. Stock short and perennial. Leaves rosulate, obovate-oblong, obtuse, entire, ½ to 1 in. long, narrowed into a petiole often as long as the lamina, glabrous or ciliate; some converted into ovoid or nearly globular pitchers of about 1 in. diameter or rather more, each with 3 external longitudinal raised nerves, dilated into narrow leaf-like double wings ciliate on the edge; the mouth of the pitcher bordered by a transversely plaited ring; the ovate lid attached to the side next the petiole. Scape 1 to 2 ft. high, silky-pubescent. Flowers scarcely 2 lines diameter, silky-hairy, nearly sessile, in short alternate racemes forming a narrow panicle of 1 to 3 in. Calyx-tube greenish, the lobes white, especially at the edges. Stamens not exceeding the calyx. Ripe carpels very little longer and very hairy, the central torus very small at the time of flowering, at least 1 line diameter when in fruit.—R. Br. App. in Flind. Voy. 600, t. 4; Bot. Mag. t. 3118, 3119; Nees, in Pl. Preiss. i. 278.

W. Australia. Wet marshes, King George's Sound, *Labillardière*, *R. Brown*, and others.

19. EREMOSYNE, Endl.

Calyx-tube hemispherical, compressed, adnate to the ovary; lobes 5, narrow. Petals 5. Stamens 5. Ovary half-adnate to the calyx-tube, 2-celled, with 1 erect ovule in each cell; styles short, distinct, with capitate stigmas. Capsule half-inferior, membranous, compressed, broad, 2-celled, loculicidally dehiscent. Seeds solitary in each cell, erect, albuminous.—Small herb. Leaves alternate, lobed. Flowers minute, in terminal cymes.

The genus is limited to a single species, endemic in Australia.

1. **E. pectinata,** *Endl. in Hueg. Enum.* 53; *Iconogr. t.* 112. A slender diffuse or divaricately branched annual of 3 or 4 in., hirsute with short white spreading hairs. Radical leaves rosulate, petiolate, obovate or spathulate, about ½ in. long; stem-leaves alternate, sessile, deeply divided into 3 to 7 narrow linear lobes, the central one longer and often broader than the others; the upper leaves very small and narrow, entire or 3-cleft. Flowers numerous in terminal corymbose cymes, each flower about ½ line in diameter, the small white petals exceeding the calyx-lobes, and occasionally with 2 or 3 white hairs on the outside. Capsule about ¾ line broad, hirsute with few hairs. Seeds ovoid-conical, with a thin pale mottled testa, the albumen not very copious; embryo apparently oblong, but not seen perfect.—Lehm. in Pl. Preiss. ii. 236.

W. Australia. Swan River; *Huegel*, *Drummond*, 3rd *Coll. n.* 20; sandy shady places, Plantagenet district, *Preiss*, *n.* 2016.

20. DONATIA, Forst.

Calyx-tube adnate to the ovary, lobes 4 or 5. Petals 5 to 10, inserted round a broad flat disk. Stamens 2 or 3, inserted on or within the disk; anthers 2-celled, opening outwards. Ovary inferior, 2- or 3-celled, with several ovules in each cell attached to a pendulous placenta; styles short and thick, united at the base, stigmas globular. Fruit . . . —Densely tufted alpine herbs. Leaves small, closely imbricated, persistent. Flowers solitary, sessile amongst the leaves.

Besides the Australian species, which is also in New Zealand, there is one from Fuegia. The genus is very anomalous, but appears to be nearer to *Saxifrageæ* than to any other Order.

1. **D. Novæ-Zelandiæ,** *Hook. f. Fl. Nov. Zel.* i. 81, *t.* 20. A small densely tufted perennial, the short stem completely covered by the crowded imbricated leaves. Leaves linear, about 2 lines long, entire, coriaceous, shining, the fresh ones terminating the tufts of a bright green, the old persisting ones below them brown, with dense tufts of white shining almost scarious hairs in their axils. Flowers solitary and sessile in the tufts, about as long as the leaves. Calyx-tube turbinate, the 5 lobes thick, somewhat obtuse, shining like the leaves. Petals 5. Stamens 2, inserted near the centre of the disk close to the base of the styles and almost cohering with them. Ovules about 12 in each cell, in a dense tuft pendulous from the top.

Tasmania. Summit of Mount Lapeyrouse, *Oldfield;* also in New Zealand.

ORDER XLIII. CRASSULACEÆ.

Sepals 3 or more, usually 5, but sometimes up to 20, free from the ovary, but occasionally united in a lobed calyx. Petals as many as sepals, free or rarely united in a lobed corolla. Stamens as many or twice as many as petals, inserted with them at the base of the calyx. Ovary superior, the carpels as many as the petals, distinct, usually with a small flat scale at the base of each; with several ovules in each; styles simple, distinct. Ripe carpels capsular. Seeds several, with a thin fleshy albumen and straight embryo.—Herbs or rarely low shrubs or undershrubs. Leaves succulent, without stipules. Flowers in terminal racemes cymes or panicles, or rarely in axillary clusters.

A rather numerous Order, extending over the greater part of the globe, but particularly abounding in S. Africa and in the rocky districts of Europe and Asia. The only Australian genus is generally spread over the area of the Order. The Order is nearly allied to some herbaceous *Saxifrageæ*, but it is more apocarpous, the stamens less perigynous, and is readily known by its succulent leaves and thoroughly isomerous flowers.

1. TILLÆA, Linn.

(Bulliarda, *DC.*)

Sepals, petals, stamens and carpels 3 or 4 each, very rarely, in species not Australian, 5, all distinct. Ripe carpels opening along the inner edge, the seeds often reduced to 1 or 2 in each.—Small, often minute, herbs. Leaves opposite. Flowers minute, axillary or in a terminal leafy panicle.

The genus has very nearly the extensive geographical range of the Order. Of the 4

Australian species, two are also in New Zealand, one of which extends also to extratropical S. America, the two others are endemic.

Flowers under 1 line long, axillary. Carpels short and obtuse.
  Flowers in dense leafy clusters. Petals shorter than the sepals . . 1. *T. verticillaris.*
  Flowers solitary, mostly pedicellate. Petals as long as or exceeding the sepals.
    Leaves not 2 lines long. Pedicels usually longer. No scales under the carpels . . . . 2. *T. purpurata.*
    Leaves often above ¼ in. long. Pedicels rarely as long as the leaves. A scale under each carpel . . . . 4. *T. recurva.*
Flowers above 1 line long, in a broad dichotomous or 3-chotomous leafy panicle. Carpels oblong . . . . 3. *T. macrantha.*

I omit *Dasystemon calycinum*, DC. Mem. Crass. 15. t. 3, and Prod. iii. 382, described from a plant from the Jardin des Plantes of Paris, supposed to have been raised from Australian seed, for it is evidently founded on a mistake. The stamens with thick ovoid filaments, forming the chief character of the genus, are not so figured in the plate; probably on a first hasty examination the carpels were taken for stamens. The plant appears to me to be *Crassula expansa*, Ait., a S. African not an Australian species, an error as to origin very common in botanical gardens.

1. **T. verticillaris,** *DC. Prod.* iii. 382. An annual, when first flowering simple and 1 in. high, but when old much branched, forming dense tufts of 3 or 4 in. diameter, or slender and 4 or 5 in. long. Leaves ovate-lanceolate or linear, connate at the base, 1 to 2 lines long. Flowers very small in dense axillary clusters mixed with small leaves, many of them nearly sessile, others on pedicels of 1 or 2 lines. Sepals usually 4, very rarely 5, acute or aristate, about ½ line long. Petals shorter, narrow, acute. Carpels without scales, when ripe very obtuse, not exceeding the calyx, with 1 or 2 seeds in each.—Hook. f. Fl. Tasm. i. 145; *T. pedunculata*, Sieb. Pl. Exs., not of Sm.; *T. adscendens* and *T. colorata*, Nees, in Pl. Preiss. i. 277.

Queensland. On the Maranoa, *Mitchell*; Brisbane river, Moreton Bay, *F. Mueller.*

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 173, and others; northward to Hastings and Clarence rivers, *Beckler*; southward to Twofold Bay, *F. Mueller*; in the interior to Barrier range, *Victorian Expedition.*

Victoria. Rocky and gravelly places, common in various parts of the colony, *F. Mueller* and others.

Tasmania. Common on dry rocks and gravel in many parts of the island, *J. D. Hooker.*

S. Australia. From Port Lincoln, *Wilhelmi*, to Bugle and Barossa ranges, *F. Mueller*; and Lake Gilles, *Burkitt.*

W. Australia. King George's Sound, *R. Brown*, and thence to Swan and Murchison Rivers, *Drummond*, *4th Coll. n.* 114, 115, *Preiss, n.* 1931, 1932, *Oldfield*, and others.

The species extends to New Zealand, and also to extratropical S. America, if *T. minima*, Miers, be really the same.

2. **T. purpurata,** *Hook. f. in Hook. Lond. Journ.* vi. 472, *and Fl. Tasm.* i. 145. A very slender decumbent annual of ½ to 1 in., rarely lengthening to 2 in. Leaves linear, connate at the base, 1 to 1½ or rarely 2 lines long. Flowers minute, on slender solitary pedicels mostly longer than the leaves, rarely short. Petals about ½ line long, sepals shorter, acute or obtuse. Carpels obtuse, not longer than the sepals, with several seeds.—F. Muell. Pl. Vict. ii. t. 19.

N. S. Wales. Paramatta, *R. Brown.*

Victoria. Wet pastures, very abundant in many parts of the colony, *F. Mueller.*

Tasmania. Wet places, Formosa, *Gunn;* S. Esk river, *C. Stuart.*

S. Australia. Wet places, foot of Mount Remarkable, and many other parts of the colony, *F. Mueller.*

W. Australia, *Drummond.*

Also in New Zealand.

3. **T. macrantha,** *Hook. f. in Hook. Ic. Pl. t.* 310, *and Fl. Tasm.* i. 145. An erect dichotomous much-branched annual, attaining 2 or even 3 in. Leaves linear, 1 to 3 lines long, connate at the base. Flowers larger than in the other species, numerous, either on long pedicels in the forks, or shortly pedicellate or sessile on the last branches, forming a broad corymbose panicle occupying the greater part of the plant. Sepals lanceolate, acute, about 1½ lines long, sometimes, but not always, ciliate. Petals as long as the sepals or shorter. Carpels acuminate at the time of flowering; when ripe oblong, obtuse, abruptly pointed by the base of the style, nearly as long as the sepals. Seeds several, but not numerous.

Victoria. Wet sandy places near Brighton, etc., *F. Mueller;* very common in wet pastures about Melbourne, *Adamson.*

Tasmania. Wet hollows, Georgetown, very common, *Gunn.*

S. Australia. Near Adelaide, *F. Mueller.*

4. **T. recurva,** *Hook. f. Fl. Tasm.* i. 146. A slender plant, densely tufted and 1 or 2 in. high in sandy places, lengthening out to 1 ft. in water. Leaves linear or linear-lanceolate, ¼ in. long or more in the longer specimens, 1 to 2 lines in the smaller ones. Flowers few, small, solitary, on peduncles rarely exceeding the leaves. Sepals about ¾ line long, acuminate. Petals about as long. Carpels acuminate with the recurved styles, with a small cuneate or linear-spathulate scale under each, sometimes half as long as the carpel. Fruit-carpels about as long as the calyx, with 2 or 3 seeds in each.—*T. verticillaris*, Hook. Ic. Pl. t. 295, not of DC.; *T. intricata*, Nees in Pl. Preiss. i. 278.

Queensland. A specimen not in flower from Moreton Bay, *F. Mueller*, appears to be this species.

N. S. Wales. Inundated forests, Lake George, *A. Cunningham.*

Victoria. Common on wet banks of rivers, etc., *F. Mueller, Robertson.*

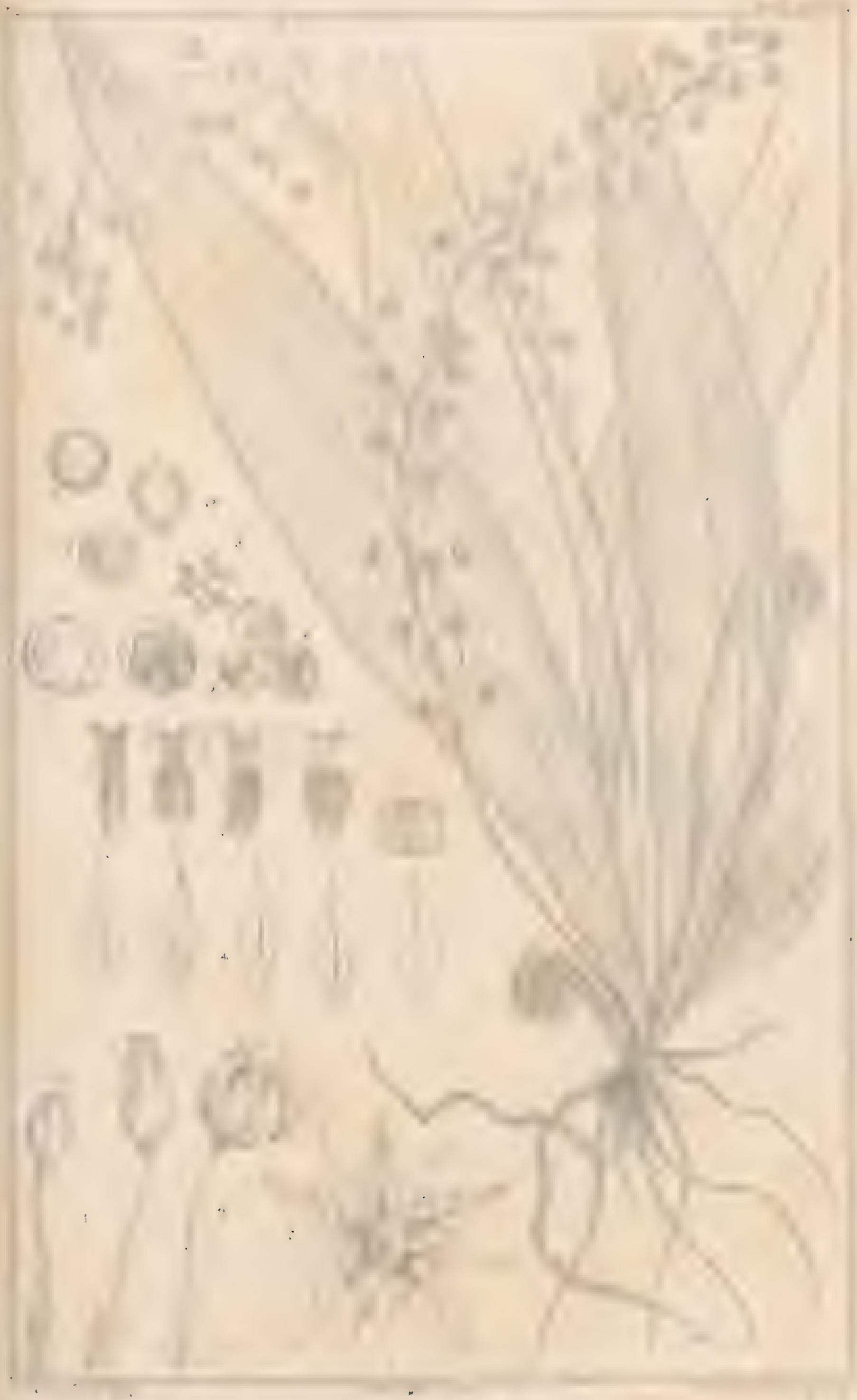
Tasmania. Port Dalrymple, *R. Brown;* common in bogs and inundated places throughout the island, *J. D. Hooker.*

S. Australia. Onkaparinga river and towards Lake Torrens, *F. Mueller.*

W. Australia, *Drummond, 4th Coll. n.* 110; wet places on the lake, Rottenest Island, *Preiss, n.* 1929.

ORDER XLIV. DROSERACEÆ.

Calyx free or very shortly adnate to the broad base of the ovary, divided to the base or nearly so, into 4 or 5 or rarely 8 segments or sepals. Petals as many as calyx-segments, hypogynous or slightly perigynous. Stamens as many as petals, or rarely, in genera not Australian, twice as many or more, and inserted with them. Ovary either 6-celled, with 2 to 5 parietal placentas or 1 basal placenta, or 2- or 3-celled, with several ovules to each placenta or cell; styles either as many as placentas, simple or divided to the base so as to appear twice the number, or variously branched; or rarely the styles united into one; stigmas various. Capsule opening loculicidally, in as many valves



Drosera Adelae F.M.

as cells or placentas, the valves rarely splitting septicidally. Seeds several, with a reticulate testa, sometimes produced beyond the nucleus into a loose wing; embryo cylindrical or sometimes minute in a fleshy albumen.—Herbs. Leaves usually ciliate or covered with glandular hairs. Flowers solitary or in one-sided racemes, either simple or forming a branching cyme.

A small Order, found in nearly all parts of the world, the principal genus closely allied to the herbaceous *Saxifrageæ*, differing chiefly in the insertion of the petals and stamens, being more generally hypogynous; the whole group is easily recognized by the glandular leaves, involute in vernation. Of the two Australian genera, the principal one constitutes nearly the whole Order and ranges over the general area, the other is endemic and very anomalous.

Ovary 1-celled. Styles 2 to 5, distinct or shortly united at the base . . 1. Drosera.
Ovary 2-celled. Style undivided . . . . 2. Byblis.

1. DROSERA, Linn.

(Sondera, *Lehm.*)

Calyx-segments 4, 5, or rarely 8. Petals as many. Stamens as many; anthers opening laterally or outwards in longitudinal slits. Ovary 1-celled, with 2 to 5, usually 3, parietal placentas; styles as many as placentas, simple or variously branched. Capsule opening in as many valves as placentas, with the placentas in their centre.—Herbs. Leaves usually involute in vernation, the lamina more or less covered on the upper side with glandular hairs or cilia and bordered with longer ones, usually irritable and closing over insects or other objects resting on them, the under side and petioles without glandular hairs. Stipules when present scarious and usually lobed or jagged. Flowers solitary or in one-sided racemes or forked cymes, on radical scapes or terminal peduncles.

A large genus, with the extensive geographical range of the Order, and comprising the great majority of its species. Of 41 Australian species, 4 are also E. Indian or in the Archipelago, of which 1 extends to New Zealand, 4 more extend to New Zealand only, the remaining 33 are endemic.

The Australian species may be readily distributed into the two old-established sections *Rorella* and *Ergaleium*, if characterized chiefly by their mode of vegetation. In *Rorella* the stock or stem, very short and completely covered with the leaves, except in *D. indica*, forms at its upper end the winter bud for the following year's vegetation, the lower end dying away either at the close of the season or after having endured several years covered with the old imbricate bases of the leaves, never forming a bulb at the base, but emitting new roots or sometimes stolons immediately under the fresh leaves of the new year. In this section also the styles are usually simple or once branched, very rarely dichotomous, and the stipules are wanting only in 3 species. In the second section, *Ergaleium*, the short stem-like stock forms usually, perhaps always, at its lower end a bulb, and at the upper end either a rosette of leaves with a leafless scape or leafy stems, which appear to be annually renewed, although in what manner this takes place has not been observed. The stock or stem between the bulb and the rosette has frequently loose ragged remains of leaves or petioles, as if it were partially at least perennial. In this section the styles are always short and very much divided, forming usually a dense tuft on the ovary, and the stipules are either entirely wanting, or, in *D. Banksii*, small and very evanescent. In both sections, however, and especially in *Rorella*, there are single exceptional species, which prevent giving any definite character derived from the singular diversities in the styles and other floral characters. Planchon, in his excellent study of the genus, in the 'Annales des Sciences Naturelles,' ser. 3, ix., proposes each of these anomalous species as a distinct section, but that course appears to me not to tend towards clearness of method, but rather to confuse the mind, and I have preferred adopting, with slight modifications, the two old sections, subdividing them more artificially in the following table:—

SECT. I. **Rorella.**—*Stock not bulbous, the upper end perennial. Scapes leafless (except in* D. indica). *Stipules often present. Styles usually simple or divided into 2 simple branches, or rarely dichotomous.*

No stipules.
Stems elongated. Leaves alternate, linear. Racemes several-flowered. Styles divided to the base into 2 filiform branches . 1. *D. indica.*
Stems short, covered by the sheathing bases of the linear leaves. Peduncles or scapes 1-flowered. Styles short, simple, with capitate stigmas . . . . 2. *D. Arcturi.*
Stemless. Leaves obovate, rosulate. Scapes short, several-flowered. Styles forked or dichotomous . . . . 3. *D. glanduligera.*
Stipules scarious. Leaves radical, rosulate (except in *D. binata*), the stems or stock dying away below the rosette or rarely persisting and densely covered with the dried remains of the old leaves and stipules.
Scape filiform, with 1 minute 4-merous flower. Styles 4, undivided . . . . 4. *D. pygmæa.*
Scape filiform, with a short loose almost corymbose raceme of 2 to 4 flowers. Leaves obovate or orbicular.
Styles 2, divided to the base into 2 branches (or 3 simple ?), with large capitate stigmas . . . . 5. *D. platystigma.*
Styles 5, filiform, undivided. Stipules short, with fine lobes . 6. *D. pulchella.*
Styles 3, filiform, undivided. Stipules silvery-white, rather broad, densely imbricate in a prominent central bud . . . . . 7. *D. leucoblasta.*
Scape with a one-sided raceme of several flowers, all on short pedicels.
Racemes glabrous or scarcely pubescent. Leaves obovate or orbicular.
Scapes slender, rarely 2 in. high.
Racemes short, rather loose. Calyx narrow, about 1 line long. Styles 3, short, with globular stigmas . . . . 8. *D. nitidula.*
Racemes slender. Pedicels very short. Calyx not half line long. Styles filiform.
Styles 3. Petiole not twice as long as the lamina . . 9. *D. paleacea.*
Styles 5, rarely 4. Petiole 3 times as long as the lamina 10. *D. parvula.*
Scapes attaining several in. Pedicel very short. Calyx above 1 line long.
Styles 5, simple, fringed at the stigmatic end. . . . . . 11. *D. Burmanni.*
Styles 3 or 4, divided to the base into 2 branches, entire or forked at the end. . . . . 12. *D. spathulata.*
Racemes, especially the calyxes, softly villous.
Styles 3 or 4, simple. Leaves oblong. Old petioles and stipules often persistent below the rosette.
Anthers oblong, on thick filaments. Petioles closely reflexed on the stock . . . . 13. *D. Drummondii.*
Anthers small, on slender filaments. Petioles not reflexed 14. *D. scorpioides.*
Styles 3, dichotomous. Leaves orbicular, the petioles long, woolly-hairy as well as the stipules . . . . 15. *D. petiolaris.*
Scape tall, with a loose cyme. Leaves linear, forked or dichotomous. Styles divided into a dense tuft of numerous lobes . . 16. *D. binata.*

SECT. II. **Ergaleium.**—*Stock short, slender, stem-like, naked or with ragged remains of old petioles, forming (usually if not always) a bulb at the lower end and producing at the upper end a rosette of leaves and leafless scapes, or leafy stems or branches. Stipules none (or in* D. Banksii *small and evanescent). Styles dichotomous or divided into very numerous filiform branches, forming a dense tuft.*

Rootstock bearing a simple rosette of leaves, with leafless scapes or peduncles.

Leaves semicircular or almost reniform, cuneate at the base, on a long petiole . . . . 17. *D. zonaria.*

Leaves orbicular obovate or oblong, tapering into a very short petiole.

Peduncles, usually several, all 1-flowered.

Leaves small, thick, oblong, not half as long as the peduncle . 18. *D. bulbosa.*

Leaves obovate, penniveined, nearly as long as or longer than the peduncle . . . . 19. *D. rosulata.*

Leaves obovate, several-nerved, nearly as long as the peduncle 20. *D. Whittakeri.*

Peduncles several, filiform, 2- or 3-flowered. Leaves obovate, penniveined . . . . 21. *D. macrophylla.*

Peduncles solitary, bearing a cyme of many flowers.

Leaves all reduced to lanceolate membranous scales . . . . 22. *D. squamosa.*

Leaves broadly obovate or orbicular . . . . 23. *D. erythrorhiza.*

Rootstock bearing a rosette of leaves, and either leafy flowering-stems, or leafless scapes and leafy side-branches. Leaves not peltate.

Stem-leaves opposite or whorled. Central scape usually leafless, bearing a cyme of several flowers.

Leaves of the primary rosette scarcely petiolate, above ½ in. long. Scape (with the cyme) 3 to 6 in. long or more . . . . . 24. *D. stolonifera.*

Leaves of the primary rosette distinctly petiolate, orbicular, under 2 lines diameter. Scape (with the cyme) 2 to 4 in. . 25. *D. humilis.*

Stem-leaves alternate.

Central scape leafless, 1- or 2-flowered, ½ to ¾ in. long. Leafy side-branches short, usually barren . . . . 26. *D. ramellosa.*

Stem leafy, with a many-flowered terminal cyme . . . . . 27. *D. flabellata.*

Rootstock terminating in a single or branched leafy flowering-stem. Lower leaves reduced to short linear-subulate or linear-lanceolate scales or (in the first 2 species) rosulate and not peltate. Stem-leaves peltate, on filiform petioles, often clustered in the axils.

Stem-leaves lunar-peltate, *i.e.* broadly crescent-shaped or at least with 2 prominent angles.

Lower leaves, when present, rosulate, not peltate. Racemes simple, the pedicels all short.

Sepals entire, glabrous. Seeds narrow-linear . . . . . 28. *D. auriculata.*

Sepals toothed, villous or nearly glabrous. Seeds ovoid . . 29. *D. peltata.*

Lower leaves not rosulate, all reduced to small narrow acute scales. Racemes branched or the lower pedicels long.

Flowers large, red or yellow, few, in a short loose cyme. Seeds linear . . . . 30. *D. Neesii.*

Flowers small, white, in a large divaricate panicle. Seeds ovate . . . . 31. *D. gigantea.*

Stem-leaves orbicular-peltate, without angles, the lower ones not rosulate, often reduced to narrow acute scales.

Flowers solitary or very few, mostly 8-merous . . . . . . 40. *D. heterophylla.*

Flowers few, small, in a simple raceme, lower pedicels short. Stipules often to the upper leaves. Styles not much divided . 41. *D. Banksii.*

Flowers 5-merous, in cymes or loose racemes. Stipules none.

Styles not much divided. Flowers very small, in many-flowered cymes . . . . 32. *D. myriantha.*

Styles divided nearly to the base into very numerous filiform, mostly simple branches.

Flowers many in the cyme, white. Calyx-segments entire 33. *D. pallida.*

Flowers in cymes, red. Calyx-segments ciliate-toothed, villous or nearly glabrous . . . . 34. *D. penicillaris.*

Flowers few, in short, loose, simple or rarely once forked racemes. Calyx-segments ciliate-toothed, glabrous or slightly villous . . . . 35. *D. filicaulis.*

Styles divided into very numerous dichotomous branches.
Flowers in a loose cyme or corymbose panicle.
Glabrous, usually simple and erect. Leaves rather large 36. *D. Huegelii.*
More or less glandular-pubescent, usually flexuose or twining. Leaves small . . . . 37. *D. macrantha.*
Flowers few, in a simple or very rarely once-forked loose raceme . . . . 38. *D. Menziesii.*
Styles divided into very numerous very short branches, forming a dense globose mass. Filaments dilated upwards. Sepals rather large, usually glabrous and entire . . . . . 39. *D. calycina.*

SECT. I. RORELLA, *DC.* Stock not bulbous, the upper end perennial. Scapes leafless, except in *D. indica.* Stipules often present, scarious. Styles usually simple or divided into 2 simple branches, rarely dichotomous.

1. **D. indica,** *Linn.; DC. Prod.* i. 319. Leafy stems, from a few in. to 1 or nearly 2 ft. long. Leaves linear, acuminate, often several in. long, fringed with the glandular ciliæ of the genus, either quite to the base or leaving a short glabrous petiole, often half stem-clasping, but not sheathing. Stipules none. Flowers in loose, lateral, often leaf-opposed racemes, short and few-flowered, or long with more numerous flowers, glabrous or glandular-pubescent. Pedicels longer than the calyx. Sepals narrow, about 1½ lines long in flower, 2 lines in fruit. Anthers oblong-linear. Styles 3, divided to the base, each into 2 filiform branches, dilated and stigmatic on the inner side at the end. Seeds obovoid, with a close testa.—Planch. in Ann. Sc. Nat. ser. 3, ix. 204; Wight, Ill. t. 20 C.; F. Muell. Pl. Vict. i. 58; *D. serpens,* Planch. l. c.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; Upper Victoria river, *F. Mueller*; Port Essington, *Armstrong*; Attack Creek, *M'Douall Stuart's Expedition.*

Queensland. Endeavour river, *R. Brown, A. Cunningham*; Shoalwater Bay, Keppel Bay, *R. Brown*; Port Curtis, *M'Gillivray*; Rockhampton, *Thozet*; Broad Sound, *Bowman.*

Victoria. Moist gravelly places round freshwater lakes, near Eustone, on the Murray, rare, *F. Mueller.*

W. Australia. Murchison river, *Oldfield.*

Common in East India and the Archipelago, extending as far as Amoy, in China, and also in various parts of tropical Africa. The Australian specimens are usually larger, with longer racemes and larger flowers than the Indian ones, but not always so, and there is no other difference.

2. **D. Arcturi,** *Hook. Journ. Bot.* i. 247, *and Ic. Pl. t.* 56. Stock tufted, sometimes slightly elongated and covered by the sheathing bases of the old leaves, the plant otherwise stemless. Leaves linear, obtuse, 1 to 2 or rarely nearly 3 in. long and 1 to 2 lines broad in the larger specimens, in others not half that size, the glandular ciliæ extending from the middle upwards, narrowed below into a glabrous petiole, sheathing at the base. Scape 1-flowered, usually exceeding the leaves, bearing occasionally a small linear bract above the middle. Calyx 3 to 4 lines long. Petals obovate, rather large. Styles 3, undivided, short and thick, each with a broad capitate almost reniform stigma.—Planch. in Ann. Sc. Nat. ser. 3, ix. 189; Hook. f. Fl. Tasm. i. 28; F. Muell. Pl. Vict. i. 57.

N. S. Wales. Mount Kosciusko, *F. Mueller.*

Victoria. Boggy places or mossy banks of rivulets and ponds, at an elevation of 5000 to 7000 ft.; alps of the Bogong and Munyang ranges, *F. Mueller.*

Tasmania. Table Mountain, near the Derwent, *R. Brown;* bogs, at an elevation of 3000 to 4000 ft., Mount Wellington, and Western Mountains, *J. D. Hooker;* Mount Lapeyrouse, *Oldfield.* Found also in New Zealand. F. Mueller describes the leaves as sometimes 4 in. long and ½ in. wide. I have never seen them anything near that size.

3. **D. glanduligera,** *Lehm. Pugill.* viii. 37, *and Pl. Preiss.* i. 252. Leaves all rosulate, broadly obovate or orbicular, 2 to 3 or rarely 4 lines diameter, narrowed into a short petiole or the inner ones rounded at the base or almost peltate. Stipules none. Scape leafless, ½ to 1½ in. high, including a loose raceme of 6 to 10 flowers, rarely reduced to 2 or 3. Pedicels recurved, about as long as the calyx, glandular-ciliate as well as the rhachis. Sepals 1 to 1½ lines long. Petals red (or orange?), not large. Styles 3, very slender, divided to about the middle into 2 branches, sometimes again forked. Seeds ovoid.—Planch. in Ann. Sc. Nat. ser. 3, ix. 206; F. Muell. Pl. Vict. i. 55.

N. S. Wales. George's river, *R. Brown;* Twofold Bay, *F. Mueller.*

Victoria. Heaths and pastures, scattered over the colony, *F. Mueller.*

S. Australia. Near Adelaide, Lynedoch valley, Barossa and Bugle ranges, etc., *F. Mueller.*

W. Australia, *Drummond, 2nd Coll. n.* 35; near Perth, *Preiss, n.* 1976; Hill river, *Oldfield;* Hampden, *Clarke.*

4. **D. pygmæa,** *DC. Prod.* i. 317. A minute species, said to be annual, but evidently forming a hybernating bud in the centre of the rosette, like the other species of the section. Leaves rosulate, orbicular, ½ to nearly 1 line diameter, on slender petioles, forming tufts of about ½ in. diameter. Stipules scarious, deeply lobed. Scapes glabrous, filiform, ½ to nearly 1 in. long, bearing a single minute terminal flower. Sepals 4, about ½ line long in flower, nearly 1 line in fruit. Petals rather larger. Styles 4, slightly club-shaped and stigmatic at the end. Capsule 4-valved. Seeds few, rather large in proportion, ovoid.—Planch. in Ann. Sc. Nat. ser. 3, ix. 289; Hook. f. Fl. Tasm. i. 29; F. Muell. Pl. Vict. i. 56.

N. S. Wales. Race ground, Paramatta, *R. Brown;* Jervis's Bay, *Caley.*

Victoria. Sandy heath-ground, occasionally wet, at the base of the Serra Range, Port Albert, etc., *F. Mueller;* near Melbourne, *Adamson, Robertson.*

Tasmania. Abundant in peaty and sandy soil along the N.W. coast, *J. D. Hooker.*

S. Australia. Encounter Bay, *F. Mueller.*

Also in New Zealand.

5. **D. platystigma,** *Lehm. Pugill.* viii. 37, *and Pl. Preiss.* i. 249. A small delicate species. Leaves rosulate, nearly orbicular, 1½ to 2 lines diameter, the petiole longer, broad and flat. Stipules scarious, finely divided, the central tuft not exceeding the leaves. Scapes filiform, ½ to 1½ in. long, bearing at the end 2 or 3 comparatively large flowers or rarely one only, on short pedicels. Sepals green, about 1 line long. Petals 3 times as long, spreading, of an orange colour. Anthers small. Styles according to Lehmann 3, simple; according to Schlotthauber 2, simple; I find however, in one flower of Preiss's and 2 of Oldfield's, 2 styles, each divided to the base into 2 filiform branches, with rather large capitate stigmas. Placentas 2, with rather numerous ovules.

W. Australia. King George's Sound, *Oldfield, Preiss, n.* 1994.

6. **D. pulchella,** *Lehm. Pugill.* vii. 38, *and Pl. Preiss.* i. 250. A small species, resembling at first sight *D. platystigma.* Leaves rosulate, orbicular, 1 to 2 lines diameter, on a much-dilated oblong petiole, 2 or 3 times as long and often as broad as the lamina. Stipules scarious, divided into filiform segments, the central tuft much shorter than the leaves. Scape filiform, 1 to 1½ in. long, bearing at the end 2 to 4 or rarely more white or pink flowers, on pedicels at length nearly as long as the calyx. Sepals minutely glandular-pubescent, about ¾ line long in flower, 1½ lines in fruit. Petals spreading, scarcely twice as long as the calyx. Anthers small. Styles 5, filiform, undivided, longitudinally stigmatic on the inner side towards the end. Placentas 5; ovules not numerous.

W. Australia. King George's Sound, *R. Brown*, *Preiss*, *n.* 1992, *Drummond*, 1*st Coll. and 3rd Coll. n.* 3. It varies much in the breadth of the sepals, rather narrow in Preiss's specimens, very broad in some of Drummond's, intermediate in others. Those specimens of Drummond's which Planchon had referred to *D. micrantha*, Lehm., appear to me to belong to this species.

7. **D. leucoblasta,** *Benth.* A small species, with the aspect and comparatively large flowers of *D. platystigma*, but usually rather stouter and at once known by the stipules and styles. Leaves rosulate, orbicular, 1 to 2 lines diameter, on a petiole usually much longer than the lamina and slightly flattened, but not near so broad as in *D. pulchella.* Stipules scarious, silvery-white, the lobes much broader than in the adjoining species and densely imbricate in an oblong or conical bud in the centre of the rosette, 2 to 4 lines long at the time of flowering. Scape filiform, 1 to 2 in. long, with 2 or 3 flowers at the summit on very short pedicels. Sepals broad, nearly 1 line long at the time of flowering, somewhat enlarged afterwards. Petals spreading, 3 times as long as the calyx. Anthers small. Styles 3, filiform, longitudinally stigmatic on the inner side towards the end. Placentas 3.

W. Australia, *Drummond*, 2*nd Coll. n.* 14; dry sandy flats, Kalgan river, *Oldfield.*

8. **D. nitidula,** *Planch. in Ann. Sc. Nat. ser.* 3, ix. 285. A very small species, but much more rigid than *D. platystigma.* Leaves densely tufted, the upper ones rosulate, but the old tufts forming stocks of nearly ½ in. under the rosette, densely covered with the old leaves and stipules; lamina orbicular, rarely above 1 line diameter, on a scarcely dilated petiole often twice as long. Stipules scarious, brown, the lobes filiform, shorter than the petioles. Scapes about 1 in. high, including a short one-sided raceme of 6 to 10 flowers, nearly glabrous. Pedicels as long as the calyx. Sepals very narrow, rather rigid, about 1 line long at the time of flowering. Petals longer. Anthers small. Styles 3, short, each with a globular capitate stigma. Fruiting calyx narrow, erect, nearly 2 lines long. Capsule nearly as long, with 3 valves and placentas.

W. Australia, *Drummond.*

9. **D. paleacea,** *DC. Prod.* i. 318, *according to R. Br. Herb.* A very small species. Leaves densely tufted, the upper ones or all in the young plant rosulate, but the old tufts forming stocks of ½ in. or in one specimen nearly 1 in. long, densely covered with remains of old leaves and stipules; lamina obovate, oblong or almost orbicular, ½ to 1 line diameter; petiole longer, scarcely dilated. Stipules scarious, cut into fine filiform lobes, form-

ing a prominent erect bud. Scape filiform, ½ to 1 in. or rarely 2 in. high, the slender, rather dense, one-sided raceme of minute flowers occupying sometimes nearly one-half of it, rarely short and few-flowered. Pedicels erect, nearly as long as the calyx. Sepals nearly glabrous, not ½ line long when in flower, and not much above ½ line when in fruit. Petals longer. Anthers very small. Styles 3, filiform, rather thickened and stigmatic on the inner side towards the end. Capsule ovoid, with 3 valves and placentas and few seeds.—*D. micrantha*, Lehm. Pugill. viii. 39; *D. pygmæa*, Lehm. in Pl. Preiss. i. 250, not of DC.; *D. minutiflora*, Planch. in Ann. Sc. Nat. ser. 3, ix. 286.

W. Australia. King George's Sound, *R. Brown*; sandy places near Perth, *Preiss*, *n.* 1995; also *Drummond*.

10. **D. parvula,** *Planch. in Ann. Sc. Nat. ser.* 3, ix. 287. A small plant, evidently allied to *D. paleacea*, but probably distinct. We have, however, only the single specimen described by Planchon. Leaves and stipules as in *D. paleacea*, and the stock covered with the remains of the old leaves below the rosette, nearly 1 in. long, as in that species. Scape filiform, 1 in. long, with a short loose raceme. Pedicels longer than the calyx. Sepals rather more than ½ line long. Styles and placentas, according to Planchon, 5 or sometimes 4.

W. Australia, *Drummond*. I have been unable to detach any flower for re-examination, without destroying the specimen.

11. **D. Burmanni,** *Vahl; DC. Prod.* i. 318. Leaves all radical, rosulate, obovate-spathulate, about 3 or 4 lines diameter, narrowed into a petiole not so long. Stipules scarious, cut into narrow lobes, not so long as the petiole. Scapes solitary or 2 or 3 from the same tuft, slender, attaining 5 o 6 in. and rarely under 3 in. long, the upper portion occupied by a slender one-sided raceme of several flowers. Pedicels short. Sepals glabrous, 1½ to 2 lines long. Anthers small. Styles 5, undivided, filiform, not branched but slightly dilated and fringed towards the end.—Planch. in Ann. Sc. Nat. ser. 3, ix. 190; Wight, Ic. t. 944.

N. Australia. Regent river, N.W. coast, *A. Cunningham*; Upper Victoria river, Providence Hill, and M'Adam range, Nicholson river, Gulf of Carpentaria, *F. Mueller*.

Queensland. Endeavour river, *Banks and Solander*; Brisbane river, *F. Mueller*, *Henne*, *C. Stuart*.

The species is widely spread over E. India and the Archipelago, extending to S. China. Without examining the styles, it is very difficult to distinguish it from *D. spathulata*.

12. **D. spathulata,** *Labill. Pl. Nov. Holl.* i. 79, *t.* 106, *f.* 1. A stemless species, not very easy to distinguish from the coarser specimens of *D. Burmanni*, without examining the styles. Leaves rosulate, obovate or spathulate, not usually so broad as in *D. Burmanni* and often ½ in. long, sometimes oblong-spathulate and narrowed into a rather long petiole. Stipules scarious, cut into narrow lobes. Scapes usually 3 to 6 in. high, including the simple or rarely forked, 1-sided raceme. Pedicels short, glabrous as well as the calyx or minutely glandular-pubescent. Sepals about 1½ lines long, often united at the base. Petals pink red or white, as long as or rather exceeding the calyx. Anthers oblong. Styles 3 or rarely 4, but divided to the base

into 2 branches either entire and filiform or slightly dilated, emarginate or shortly forked at the end. Seeds numerous, small.—DC. Prod. i. 318; Planch. in Ann. Sc. Nat. ser. 3, ix. 193; Hook. f. Fl. Tasm. i. 29; Bot. Mag. t. 5240; F. Muell. Pl. Vict. i. 66.

Queensland. Brisbane river, *F. Mueller, C. Stuart.*

N. S. Wales. Common about Port Jackson, *R. Brown* and others; northward to Hastings river, *Beckler.*

Victoria. Boggy soil towards Brighton, *Howitt;* Mount Abrupt, *Wilhelmi.*

Tasmania. Wet marshy hollows, Rocky Cape, *J. D. Hooker.*

The species is also in New Zealand. Some specimens of Cuming's, from the Philippine Islands, are also referred to it by Planchon, and do not in fact appear at all different. They are, however, probably the same as the S. Chinese *D. Loureiri*, Hook. and Arn. Bot. Beech. 167, t. 31; Benth. Fl. Hongk. 130, which must in that case be united with *D. spathulata.* Among the Australian specimens there appear to be two slightly different forms, one with larger deeper-coloured flowers, and the style-branches usually dilated and emarginate at the end, the other more slender, with paler and smaller flowers, the style-branches divided some way down into two slender forks.

13. **D. Drummondii,** *Lehm. Pl. Preiss.* ii. 235. Variable in aspect according to age, but readily distinguished from the preceding species by the woolly hairs of the raceme. Leaves all in the young plants, the upper ones in the older tufts, rosulate, the stock under the rosette lengthening out to above 1 in., covered with the remains of old leaves and stipules; lamina from narrow-oblong to almost obovate, rarely above 2 lines long, the petiole much longer and closely reflexed over the old leaves. Stipules scarious, finely cut, but much shorter than in *D. scorpioides.* Scape 1 to 3 or 4 in. long, nearly glabrous or woolly hairy, the raceme simple, short and few-flowered or lengthening to above an inch. Pedicels short, covered as well as the calyx with woolly hairs. Sepals from 1 line long when in flower to 2 lines in fruit, often denticulate and ciliate. Petals rather large. Filaments thick, with oblong anthers. Styles 3 or 4, simple and filiform. Ovules 4.—*D. barbigera,* Planch. in Ann. Sc. Nat. ser. 3, ix. 287.

W. Australia, *Drummond,* 3*rd Coll. n.* 34.

14. **D. scorpioides,** *Planch. in Ann. Sc. Nat. ser.* 3, ix. 288. Very near *D. Drummondii* and perhaps a variety, the stock lengthening out sometimes to 2 or 3 in., and the scarious stipules much more prominent. Leaves linear-oblong, 2 to 3 lines long, or rarely a few of the inner ones small and almost obovate, the petiole longer than the lamina, but not so reflexed as in *D. Drummondii.* Scape 1 to 2 in. long, woolly or nearly glabrous, the raceme short dense and few-flowered. Sepals often very woolly, but not so much ciliate as in *D. Drummondii,* and rather smaller. Petals apparently twice as long as the calyx. Filaments slender, with small anthers. Styles 3, filiform.

W. Australia. King George's Sound, *R. Brown, Baxter, Wakefield,* and probably from thence to the eastward, *Drummond,* 4*th Coll. n.* 125, *and* 5*th Coll. n.* 283; Cape Arid and near S.W. Bay, *Maxwell.*

Var. (?) *brevipes.* Leaves smaller, from oblong to almost obovate, the petioles shorter. Scapes short, flowering from below the middle, nearly glabrous. Stamens as in the normal *D. scorpioides.*—*Drummond,* 5*th Coll. n.* 284.

15. **D. petiolaris,** *R. Br. in DC. Prod.* i. 318. Stock short, densely

tufted, with long silky or rusty hairs covering the persistent bases of the old leaves and stipules. Leaves rosulate, orbicular or broadly obovate, rarely above 2 lines diameter, on a rather broad petiole of ½ to 1 in. in the ordinary form, the under side of the lamina and the petiole clothed with long silky hairs. Stipules scarious, but not prominent. Scapes in the largest specimens 1 ft. high but usually about half that, including the rather loose, often long, 1-sided raceme, the calyx, pedicels, and rhachis more or less villous with soft silky or velvety hairs. Pedicels rather shorter than the calyx, often reflexed. Sepals above 1 line long in flower, 2 lines in fruit. Petals broad, rather large. Anthers small. Styles 3, repeatedly dichotomous, the last branches short and stigmatic.—*D. fulva*, Planch. in Ann. Sc. Nat. ser. 3, ix. 289.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*, *Henne*; Goulburn Island, *A. Cunningham*; Port Essington, *Armstrong*; M'Adam range, *F. Mueller*.

Queensland. Endeavour river, *Banks and Solander*, *R. Brown*. Banks's specimens are remarkable for their petiole 1 to 2 in. long and less dilated, with a lamina of 1 to 2 lines diameter, which induced Planchon to consider them as belonging to a distinct species, but R. Brown's carefully-selected series of specimens show every gradation from the longest to the shortest petioles.

Planchon describes the styles of this species as twice bifid; I find them 3 or 4 times bifid. It is, however, exceedingly difficult to trace their ramifications from dried specimens. In the bud they form a dense mass which requires great care in unfolding and after flowering they are so mixed in the withered petals, that it almost impossible to extract them whole. The leaves are, as observed by Planchon (l. c. 289, 290) not peltate, and the association of the species with the very dissimilar *D. Banksii* into one section (*Lasiocephalum*, proposed by Planchon (l. c. 94), and founded partly on this character, can scarcely be admitted.

16. **D. binata,** *Labill. Pl. Nov. Holl.* i. 78, *t.* 105. Stock small, appearing sometimes to emit creeping stolons. Leaves radical, on long petioles, the lamina divided to the base into 2 long linear lobes, sometimes again once or twice forked, and often 2 or 3 in. long, elegantly fringed by the glandular cilia of the genus, glabrous underneath as well as the petioles. Stipules short, broad, brown and scarious, slightly jagged. Scapes exceeding the leaves, often 1 to 1½ ft. high, bearing a loose cyme of large white flowers, consisting usually of 2 or 3 racemose branches, rarely reduced to a short simple raceme. Sepals about ¼ in. long. Petals twice as long. Styles usually 3, divided into numerous dichotomous lobes, some very short, others longer, clavate or forked at the stigmatic end. Capsule globular. Seeds very numerous, small and linear.—DC. Prod. i. 319; Bot. Mag. t. 3082; Planch. in Ann. Sc. Nat. ser. 3, ix. 206; Hook. f. Fl. Tasm. i. 29; F. Muell. Pl. Vict. i. 59; *D. pedata*, Pers. Syn. i. 337; DC. Prod. i. 319; *D. dichotoma*, Sm. in Rees' Cyclop. xii.

N. S. Wales. Port Jackson, *R. Brown*, *Sieber*, *n.* 177, *and Fl. Mixt. n.* 625, and others; Blue Mountains, *Miss Atkinson*; Illawarra, *A. Cunningham*.

Victoria. Wet boggy places, often growing in moss, Wilson's Promontory, Buffalo ranges, Grampians, etc., *F. Mueller*.

Tasmania. Formosa, *Lawrence*; abundantly on the coast from Rocky Cape to Woolnorth, *Gunn*; South Port, *C. Stuart*.

S. Australia. Encounter Bay, *Whittaker*, *F. Mueller*; cataracts near Mount Lofty, *F. Mueller*.

The species is also in New Zealand. The Port Jackson specimens have the leaves usually dichotomous, in the southern ones they are more frequently 2-lobed only; but these differences are by no means constant, and the two forms occur sometimes on the same specimen.

SECT. II. ERGALEIUM, *DC.* Stock short, slender, stem-like, naked or with ragged remains of old petioles, forming usually, if not always, a bulb at the lower end, and producing at the upper end a rosette of leaves and leafless scapes, or leafy stems or branches. Stipules none, or, in *D. Banksii*, small and evanescent. Styles dichotomous or divided into very numerous filiform branches, forming a dense tuft.

Nearly all the species of this section dye the paper in which they are preserved a rich carmine or purple colour. When growing, they are said to disappear entirely after the fruiting is over, but I find no observation of how much of the underground stock besides the bulb persists till the next season, nor do the specimens show what relation the new shoot has had to the old bulb. It is, indeed, not often that collectors have gathered their specimens with the bulb.

17 ? **D. zonaria,** *Planch. in Ann. Sc. Nat. ser.* 3, ix. 303. Only known from two barren rosettes, about 2 in. diameter. Leaves of a light green colour, broadly orbicular or almost reniform or fan-shaped, above ½ in. broad, shortly cuneate at the base, on a petiole usually longer than the lamina, the margin elegantly fringed by the glandular cilia of the genus, the veins scarcely conspicuous.

W. Australia, *Drummond.* Possibly a barren state of *D. rosulata.*

18. **D. bulbosa,** *Hook. Ic. Pl. t.* 375. Bulbous. Leaves at the end of the slender stock rosulate or apparently verticillate, oblong, slightly spathulate, narrowed at the base but not distinctly petiolate, 3 to 4 lines or rarely ½ in. long, rather thick, with 1 broad nerve. Peduncles or scapes 1-flowered, few or numerous, twice as long as the leaves, glabrous or nearly so. Sepals about 2 lines long. Petals twice as long, apparently white. Styles deeply divided into numerous filiform branches, slightly dilated and stigmatic at the end.

W. Australia. Swan River, *Drummond,* 1*st Coll.*; Murchison river, *Oldfield.*

19. **D. rosulata,** *Lehm. Pugill.* viii. 36, *and Pl. Preiss.* i. 251. Bulbous. Leaves at the end of the slender rootstock rosulate, obovate, tapering at the base, rarely above 1 in. long including the short broad petiole, with a broad central nerve and a few lateral veins diverging from it above the middle. Peduncles or scapes 1-flowered, slender, often filiform, rarely exceeding the leaves. Sepals scarcely above 2 lines long at the time of flowering, longer in fruit. Petals white. Anthers ovate. Styles 3, divided to the base into numerous filiform branches, slightly dilated and stigmatic at the end.— Planch. in Ann. Sc. Nat. ser. 3, ix. 301.

W. Australia. Sandy boggy places near Perth, *Preiss, n.* 1983; Champion Bay and Cape Leschenault, *Oldfield*; Vasse river, *Mrs. Molloy*; King George's Sound, *Harvey.*

20. **D. Whittakerii,** *Planch. in Ann. Sc. Nat. ser.* 3, ix. 302. Bulbous, with rosulate leaves at the end of the stock, as in *D. rosulata*, which this species closely resembles, the leaves of the same size, but showing, besides the midrib, 2 or 3 lateral nerves on each side, distinct in the petiole and diverging in the lamina. Scapes 1-flowered, not much longer than the leaves. Sepals at least 3 lines long at the time of flowering and nearly 5 lines in fruit, more acute than in *D. rosulata.* Petals white, half as long

again as the calyx. Anthers ovate. Styles 3, divided to the base into numerous filiform branches, slightly dilated and stigmatic at the end. Capsule shorter than the calyx. Seeds ovoid.—F. Muell. Pl. Vict. i. 57, t. suppl. 6; *D. rosulata*, Behr, in Linnæa, xx. 628, not of Lehm.

Victoria. Rather frequent in the southern parts of the colony, *F. Mueller*; Wimmera, *Dallachy*.

S. Australia. Rich boggy flats, entirely disappearing after the cessation of the winter rains, *Behr*.

The species is scarcely to be distinguished from *D. rosulata*, except by the venation of the leaves.

21. **D. macrophylla,** *Lindl. Swan Riv. App.* 20. Bulbous with a slender more or less scaly rootstock. Leaves at the end rosulate, obovate, tapering at the base, thin, glandular, the veins few, diverging from the central nerve much above the base, as in *D. rosulata*, and slightly reticulate, varying from ½ to 2 in. long, including the very short petiole. Scapes or peduncles several, each with 2 or 3 flowers, apparently white and rather large, on slender pedicels. Calyx glabrous, 2 to 3 lines long in flower, longer in fruit. Styles 3, deeply divided into numerous filiform branches. Seeds nearly globular.—Hook. Ic. Pl. t. 376; Lehm. in Pl. Preiss. i. 251.

W. Australia. Swan River, *Drummond*, 1*st Coll. and* 3*rd Coll. n.* 40; Princess Royal Harbour, *Preiss*, *n.* 1986.

22. **D. squamosa,** *Benth.* Bulbous, the old scales on the short slender rootstock often numerous. Leaves forming a tuft at the end, as in the allied species, but all reduced to erect or scarcely spreading, lanceolate, membranous scales of 2 to 4 lines, acute or obtuse and scarcely ciliate, without any true lamina. Scape solitary, 1 to 2 in. long, leafless, bearing a compact cyme of numerous flowers, rather smaller than those of *D. erythrorhyza*, but otherwise resembling them.

W. Australia. Between Perth and King George's Sound, *Preiss* (*Herb. Sonder*), *Harvey*; towards the Great Bight, *Maxwell*. It is possible that this may prove to be a variety of *D. erythrorhiza*, bearing the same relation to it as *D. bulbosa* to *D. rosulata*, with undeveloped leaves, but the difference appears constant in all the specimens seen from different collectors.

23. **D. erythrorhiza,** *Lindl. Swan Riv. App.* 20. Bulbous, the stem-like rootstock slightly scaly. Leaves rosulate at the end, very broadly obovate or almost orbicular, tapering at the base, thin, penniveined, but one vein or nerve at each side starting from near the base, mostly ¾ to 1 in. long, including the very short petiole. Scape solitary, 1 to 3 in. long below the inflorescence, bearing a rather loose cyme of numerous flowers apparently white. Sepals glabrous, not 2 lines long when in flower, above 3 lines in fruit. Petals longer. Anthers ovate. Styles divided to the base into numerous filiform branches.—Lehm. in Pl. Preiss. i. 251; *D. primulacea*, Schlotthaub. in Bonplandia, iv. 110.

W. Australia. Swan River, *Drummond*, 1*st Coll.*, *Preiss*, *n.* 1987, *Collie*; King George's Sound, *Maclean*; between Perth and King George's Sound, *Harvey*.

24. **D. stolonifera,** *Endl. in Hueg. Enum.* 5. Bulbous, with few scales on the stem-like rootstock. Radical leaves rosulate at the end, obovate, tapering at the base, rarely above ½ in. long, including the very short petiole.

From this rosette, in the ordinary form, proceeds a leafless scape of 3 to 6 in., bearing a loose cyme of rather numerous flowers of the size and form of those of *D. erythrorhiza*, and 3 or 4 barren branches shorter than the scape each with several whorls of 2 to 4 leaves with a broadly obovate or orbicular lamina, on a petiole sometimes longer than the lamina and very narrow, sometimes shorter and dilated. In other specimens the stem is continued beyond the first rosette, producing a second or even a third rosette or tuft of leaves with a more orbicular lamina and longer petiole than the lowest, the scape and barren branches proceeding from the uppermost rosette. In others again the lateral leafy branches terminate in a small cyme, or 2 or 3 scapes each with a cyme proceed from the primary tuft, or rarely the side-branches are again branched, but in all the forms assumed the leaves are all opposite or in whorls or rosettes. Calyx mostly under 2 lines long in flower, nearly 3 lines in fruit. Styles 3, with very numerous filiform branches and seeds ovoid as in the preceding species.—Lehm. in Pl. Preiss. i. 253; Hook. Ic. t. 389; *D. porrecta*, Lehm. Pugill. viii. 41, and Pl. Preiss. i. 252; *D. purpurascens*, Schlotthaub. in Bonplandia, iv. 111.

W. Australia. Wet sandy places, Swan River, *Preiss, n.* 1984, 1985, *Drummond, 1st Coll., and 3rd Coll. n.* 15, *Oldfield*, and others; near Mount Wuljenup, *Preiss, n.* 1977; Stirling Terrace, *Maxwell.*

25. **D. humilis,** *Planch. in Ann. Sc. Nat. ser.* 3, ix. 300. This may prove to be a small variety of *D. stolonifera*. It is much more slender, usually 2 to 4 in. high including the cyme. All the leaves including those of the primary rosette have a rather long petiole, with a small orbicular lamina about 1 to 1½ lines diameter, and the scapes are generally several from the tuft. Flowers as in *D. stolonifera*, but rather smaller, and the variations in the development of the lateral leafy branches are the same.

W. Australia, *Drummond;* Murchison river, *Oldfield.*

26. **D. ramellosa,** *Lehm. Pugill.* viii. 40, *and Pl. Preiss.* i. 252. Bulbous, with a slender rootstock. Leaves at the end rosulate, broadly obovate, tapering at the base, 3 to 6 lines long including the broad petiole. Scapes solitary or several, rarely above ½ in. long, 1- or 2-flowered, with 2 or 3 lateral leafy shoots, very short at the time of flowering, but lengthening out to 2 or 3 in. Leaves on these shoots all alternate, broadly orbicular, not peltate, 2 to 3 lines diameter, narrowed into a petiole about as long as the lamina. Sepals 1½ lines long when in flower, 2 lines in fruit. Petals longer, white. Styles 3, divided into very numerous filiform branches.—*D. penduliflora*, Planch. in Ann. Sc. Nat. ser. 3, ix. 301.

W. Australia. Sandy wet places near the lake in Rottenest Island, *Preiss, n.* 1990; Swan River, *Oldfield, Drummond.*

27. **D. flabellata,** *Benth.* Bulb not seen, but probably as in the allied species. Stems in our specimens simple or slightly branched, leafy, about ½ ft. high or rather more. Lower leaves rosulate, stem-leaves alternate, all broadly fan-shaped, not peltate, 2 to 4 lines diameter, narrowed into a short broad petiole. Flowers rather small, numerous, in a terminal branching cyme. Sepals attaining 2 lines or rather more after flowering, slightly toothed, glabrous. Styles divided nearly to the base into very numerous

filiform branches. Seeds not very small, globose or slightly angular, tuberculate.

W. Australia. Towards Cape Riche, *Drummond*, 5*th Coll. n.* 281.

28. **D. auriculata,** *Backh.; Planch. in Ann. Sc. Nat. ser.* 3, ix. 295. Bulbous, with a slender stock. Leafy stem erect, simple or slightly branched, ½ to 1½ ft. high, glabrous. Lower leaves at the summit of the stock either all reduced to short linear scales, or forming a small rosette, with orbicular almost reniform or peltate laminæ and short petioles. Stem-leaves scattered, peltate, broadly crescent-shaped or at least truncate on one side, the 2 angles more or less produced into glandular-ciliate appendages, the petiole filiform. Flowers several, white, in a terminal simple raceme. Pedicels at length exceeding the calyx, the lower ones not much longer than the others. Sepals attaining 2 lines or rather more in fruit, glabrous, entire or scarcely glandular-toothed. Styles divided from a little below the middle into a dense tuft of short dichotomous linear lobes. Seeds very numerous, narrow-linear, the loose testa extending beyond the nucleus at one or both ends.—Hook. f. Fl. Tasm. i. 30; F. Muell. Pl. Vict. i. 61.

N. S. Wales. Port Jackson, *R. Brown, Sieber, n.* 176 (with *D. peltata*), and others; northward to Clarence river, *Beckler;* southward to Twofold Bay, *F. Mueller.*

Victoria. Sandy poor pasture land and sterile ridges, not rare, *F. Mueller.*

Tasmania. Abundant in rocky grassy heathy places throughout the island, *J. D. Hooker.*

S. Australia. Bugle Range, *F. Mueller;* Encounter Bay, *Whittaker.*

Also in New Zealand. This species scarcely differs, except in the seed, from those forms of *D. peltata* which have nearly glabrous sepals.

29. **D. peltata,** *Sm. in Willd. Spec. Pl.* i. 1546. Bulbous, with a slender rootstock. Leafy stem erect or flexuose, ½ to 1½ ft. high. Lower leaves at the summit of the rootstock usually rosulate, orbicular or reniform, not peltate, 2 to 3 lines diameter, on a broad petiole often longer than the lamina; stem-leaves peltate, semiorbicular or broadly crescent shaped, on slender or filiform petioles. Flowers white, in loose simple racemes. Pedicels usually exceeding the calyx. Sepals attaining about 2 lines, or more in the large-flowered specimens, ciliate-toothed, and more or less clothed with rather long soft hairs. Styles short, densely dichotomous from below the middle, the ultimate branches shortly linear-clavate. Seeds very numerous, small, ovoid or globular, the testa not produced beyond the nucleus.—Sm. Exot. Bot. i. 79, t. 41; DC. Prod. i. 319; Hook. f. Fl. Tasm. i. 30; F. Muell. Pl. Vict. i. 60; *D. petiolaris*, Sieb. Pl. Exs. (which includes also *D. auriculata*); *D. lunata*, Hook. Ic. Pl. t. 54, and probably also Hamilt. (Buchan.) in DC. Prod. i. 319.

N. S. Wales. Port Jackson, *R. Brown, Sieber, n.* 176, *and Fl. Mixt. n.* 523 (partly), and others.

Victoria. Fertile pastures and meadows, not rare, *F. Mueller.*

Tasmania. Moist places and grassy lands throughout the island, but not so common as *D. auriculata, J. D. Hooker.*

Var. *gracilis.* Stems slender. Flowers much smaller.—*D. gracilis*, Hook. f. in Planch. Ann. Sc. Nat. ser. 3, ix. 297, and Fl. Tasm. i. 30, t. 5.—Paramatta, *Woolls;* mountain districts, Tasmania, *J. D. Hooker.* This form is represented by Labillardière, Pl. Nov. Holl. t. 106, f. 2.

Var. *foliosa.* Short and stout, with larger leaves and fewer flowers.—*D. foliosa*, Hook. f.

in Planch. Ann. Sc. Nat. ser. 3, ix. 298, and Fl. Tasm. i. 30, t. 6.—Grassy plains near Ballarat, *F. Mueller* ; marshy places, Tasmania, *J. D. Hooker.*

The species appears to extend over E. India and the Archipelago to S. China, for I can find no character whatever to distinguish the common *D. lunata*, Ham., of that country. The rosulate leaves are indeed less frequently present at the time of flowering, but are to be found in some specimens, and are not always constant in the Australian ones. The sepals and styles are the same in both.

30. **D. Neesii,** *Lehm. Pugill.* viii. 42, *and Pl. Preiss.* i. 251. Bulbous, with a slender rootstock. Leafy stem erect flexuose or perhaps sometimes twining, 1 to 1½ ft. high, glabrous or slightly glandular-pubescent under the inflorescence. No rosulate leaves; lower leaves reduced to small scattered linear acute scales; stem-leaves on slender petioles, peltate, broadly crescent-shaped, with 2 acuminate ciliate angles, sometimes small, but often 3 lines broad. Flowers rather large, red or purple in the original form, not numerous, in a loose cyme or in a once-branched or simple raceme, with the lower pedicels long. Sepals above 2 lines long in flower, often 3 lines in fruit, slightly toothed, glandular-ciliate, villous outside. Styles deeply divided into very numerous filiform slightly dichotomous branches. Seeds very numerous, narrow-linear.

W. Australia. Princess Royal Harbour, *Preiss, n.* 1978 (not seen); Hill river, *Oldfield ;* between Moore and Murchison rivers, *Drummond, 6th Coll. n.* 113; Champion Bay, *Oldfield.*

Var. *sulphurea.* Flowers yellow or straw-colour, but without any other difference.—*D. sulphurea*, Lehm. Pugill. viii. 43, and Pl. Preiss. i. 251. King George's Sound and adjoining districts, *R. Brown, King, Preiss, n.* 1981, *Oldfield ;* Vasse river, *Oldfield.*

31. **D. gigantea,** *Lindl. Swan Riv. App.* 20. Probably bulbous; the stock slender at the base, usually thickened at the crown and often covered with a dense mass of old remains of leaves. Leafy stem tall, erect, branching upwards, glabrous. Lower leaves reduced to lanceolate-subulate scattered scales; stem-leaves on slender petioles, peltate, broadly crescent-shaped, with 2 prominent subulate-acuminate angles, 2 to 3 lines diameter. Flowers small, white, in a large loose divaricately branched terminal panicle. Pedicels longer than the calyx. Sepals 1 to 1½ lines long, entire, glabrous. Styles short and thick, shortly divided into numerous branches forming a dense almost globular mass. Seeds obovoid or almost globular, with a close testa.—Lehm. Pl. Preiss. i. 255; Planch. in Ann. Sc. Nat. ser. 3, ix. 298.

W. Australia. Wet bogs and swamps, Swan River, *Drummond*, 1*st Coll.*, *Preiss, n.* 1991, *Oldfield ;* Blackwood river, *Oldfield.*

32. **D. myriantha,** *Planch. in Ann. Sc. Nat. ser.* 3, ix. 291. Bulbous, with a slender rootstock. Leafy stem slender, simple or slightly branched, under 1 ft. high, glabrous. Lower leaves few, reduced to small narrow acute scales; stem-leaves on filiform petioles, peltate, orbicular, not 2 lines diameter. Flowers apparently white, smaller than in any other leafy species, rather numerous in a branched cyme. Pedicels as long as the calyx. Sepals scarcely 1 line long, acute, minutely glandular-notched. Petals twice as long. Styles 3, divided to the base into 2 forked branches or into 3 or 4 simple ones. Seeds numerous, oblong-linear, the testa produced beyond the nucleus.

W. Australia, *Drummond.*

33. **D. pallida,** *Lindl. Swan Riv. App.* 20. Bulbous, with a slender rootstock. Leafy stem flexuose or twining, often 1 to 2 ft. long or even more, glabrous or glandular-pubescent. Lower leaves few, reduced to linear acute scales; stem-leaves on slender petioles, peltate, orbicular, often above 2 lines diameter. Flowers apparently white, several in a loose cyme, larger than in *D. myriantha*, but usually smaller than in the following species. Sepals from under 2 lines to at least 3 lines long, glabrous and entire or very shortly glandular-ciliate. Styles divided to the base into extremely numerous very slender and acute branches, stigmatic a considerable way down. Lehm. Pl. Preiss. i. 253.

W. Australia. Swan River, *Drummond*, 1*st Coll., and* 3*rd Coll. n.* 46, *Preiss, n.* 1996, *Oldfield;* Murchison river, *Oldfield;* King George's Sound, *Harvey*, *Oldfield*.

34. **D. penicillaris,** *Benth.* Bulbous, with a slender rootstock. Leafy stem slender, flexuose or twining, usually glabrous. Lower leaves reduced to linear acute scales; stem-leaves on slender petioles, peltate, orbicular, rather small. Flowers apparently red, rather large, several in a loose cyme or short branched raceme. Sepals pubescent or villous, ciliate-toothed, 2 to 3 lines long. Anthers oblong. Styles divided, as in *D. pallida*, into exceedingly numerous very slender branches, stigmatic a considerable way down. Seeds numerous, linear.—*D. Drummondii*, Planch. in Ann. Sc. Nat. ser. 3, ix. 295, not of Lehm.

W. Australia. Swan River, *Drummond*, 1*st Coll., and* 3*rd Coll. n.* 44; between Moore and Murchison rivers, *Drummond*, 6*th Coll. n.* 112; Oldfield river, *Maxwell*. This may possibly prove to be a variety of *D. filicaulis*, with the inflorescence rather of *D. pallida*.

35. **D. filicaulis,** *Endl. in Hueg. Enum.* 6. Bulbous, with a slender rootstock. Leafy stem slender, flexuose, glabrous, usually simple and under 1 ft. long. Lower leaves few, reduced to narrow acute scales; stem-leaves on slender petioles, peltate, orbicular, rarely 2 lines diameter. Flowers rather large, apparently red, few in short loose simple racemes, very rarely once-branched. Sepals glabrous or more frequently slightly villous, ciliate-toothed, from about 2 to nearly 4 lines long when in fruit. Anthers oblong. Styles divided, as in *D. pallida*, nearly to the base into extremely numerous slender simple branches, stigmatic a considerable way down. Lehm. Pl. Preiss. i. 255.

W. Australia, *Drummond*, 3*rd Coll. n.* 47; marshy places, Swan River, *Preiss, n.* 1988; King George's Sound, *Huegel;* Gales Brook, *Maxwell*. This species has quite the aspect of *D. Menziesii*, except that the leaves are usually smaller and the calyx less villous. The style-branches are quite different, being the same as in *D. pallida*, but it remains to be ascertained how far these differences in the style are really good specific characters.

D. microphylla, Endl. in Hueg. Enum. 6, is known only from a short diagnosis, in which there is nothing to distinguish it from *D. filicaulis*, nor from several allied species.

36. **D. Huegelii,** *Endl. in Hueg. Enum.* 6. Bulbous, with a slender rootstock. Leafy stem erect or flexuose, slender but rigid, usually simple, under 1 ft. high, glabrous. Lower leaves few, reduced to very small fine scales; stem-leaves few, on slender petioles, peltate, orbicular, very concave, almost campanulate and reflexed, rather large. Flowers large, apparently red, in a loose cyme. Sepals fully 3 lines long, fringed at the end with long

cilia. Styles 3, repeatedly dichotomous, with short almost clavate branches, shortly stigmatic at the end.—Lehm. in Pl. Preiss. i. 253.

W. Australia. King George's Sound and neighbourhood, *Huegel*, *Preiss*, *n.* 1980, *Collie, Drummond, 5th Coll. n.* 280; between Moore and Murchison rivers, *Drummond, 6th Coll. n.* 111. I have not seen either Huegel's or Preiss's specimens.

37. **D. macrantha,** *Endl. in Hueg. Enum.* 6. Bulbous, with a slender rootstock. Leafy stem erect flexuose or climbing to the length of 2 ft. or more, glandular-pubescent or hirsute. Lower leaves few, reduced to fine scales; stem-leaves on slender petioles, peltate, orbicular, mostly 2 to 3 lines diameter, flat or slightly concave. Flowers often large, but variable in size, in a loose cyme, but not usually numerous, white or pink. Sepals about 3 lines long, fringed at the end with long cilia. Styles repeatedly branched, the ultimate branches extremely numerous and slender, but short. Seeds linear.—Lehm. in Pl. Preiss. i. 254.

W. Australia. Swan River, *Drummond*, *1st Coll.*, *Oldfield*; Vasse river, *Mrs. Molloy*, near Guildford, *Preiss*, *n.* 1982, between Moore and Murchison rivers, *Drummond, 6th Coll. n.* 108; Kojonup and Cape Arid, *Maxwell.*

Var. *minor.* Leaves and flowers much smaller, but the other characters the same.—*D. subhirtella*, Planch. in Ann. Sc. Nat. sér. 3, ix. 292.—In *Drummond's* and in *Burges's* collections.

38. **D. Menziesii,** *R. Br. in DC. Prod.* i. 319. Bulbous, with a slender rootstock. Leafy stem slender, erect flexuose or almost twining, glabrous or nearly so. Lower leaves few, reduced to small slender scales; stem-leaves on slender petioles, peltate, orbicular, usually small. Flowers rather large, pink or red in the original form, few in a short simple raceme very rarely once-branched. Sepals 2 to 3 lines long, pubescent or villous or very rarely nearly glabrous, more or less ciliate. Filaments not dilated. Styles repeatedly divided into very numerous slender dichotomous branches. Seeds linear.

W. Australia. King George's Sound and adjoining districts, *Menzies*, *A. Cunningham*, *Drummond, 2nd Coll. n.* 5, and others.

Var. *flavescens.* Flowers pale-yellow. *D. intricata*, Planch. in Ann. Sc. Nat. ser. 3, ix. 293.

W. Australia, *Drummond, 2nd Coll. n.* 7; Hill and Vasse rivers, *Oldfield.*

Var. *albiflora.* Flowers white.—*D. Planchoni*, Hook. f. Fl. Tasm. i. 29; Planch. in Ann. Sc. Nat. ser. 3, ix. 294; F. Muell. Pl. Vict. i. 62.

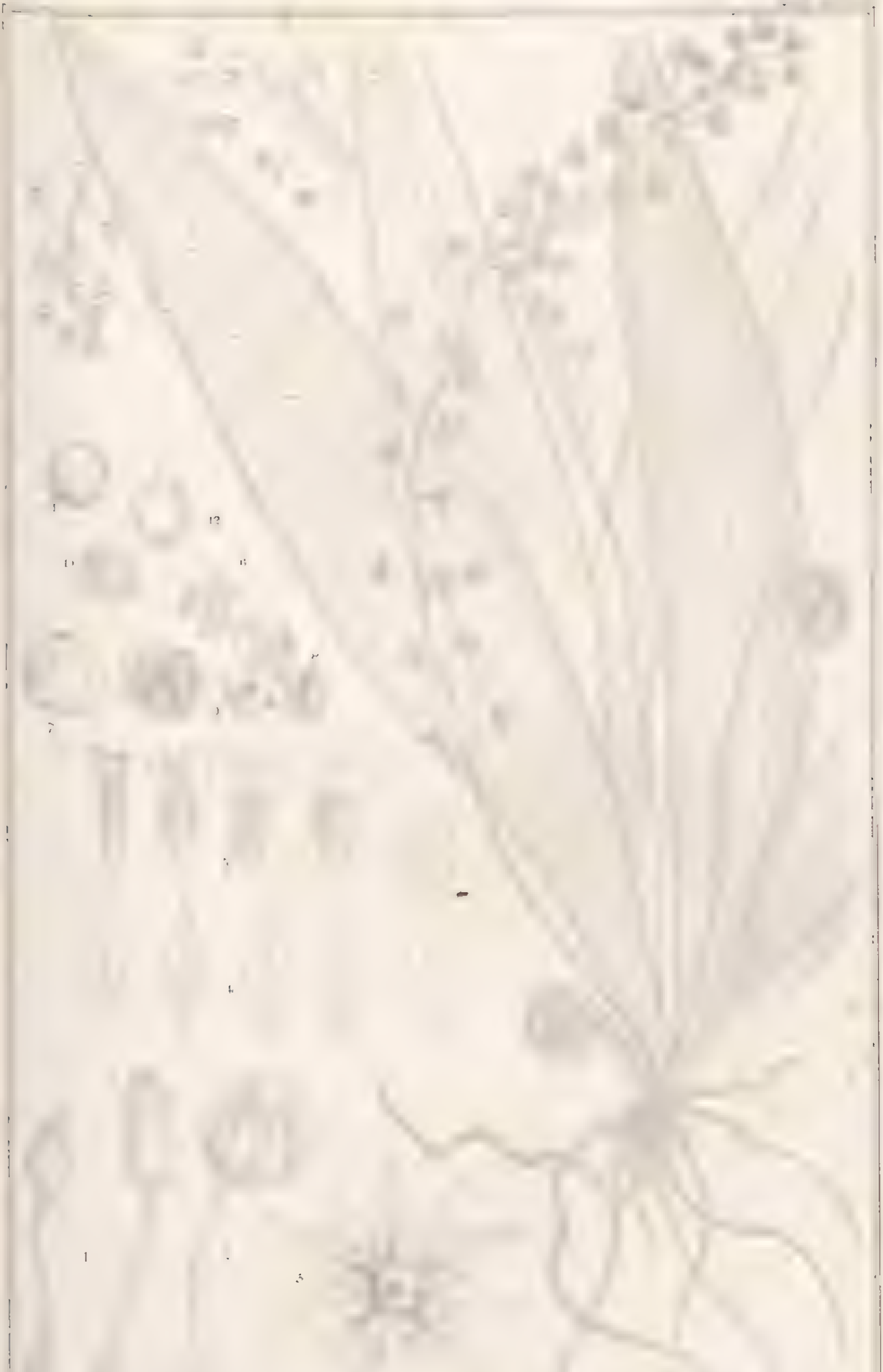
Victoria. In many localities towards the Murray, *F. Mueller.*

Tasmania. N. coast, Rocky Cape, George Town, etc., *J. D. Hooker.*

S. Australia. Throughout the greater part of the colony as far north as Flinders Ranges, *F. Mueller.*

I can see no difference whatever between the three varieties, except the colour of the flowers. The styles of the white variety are precisely the same as in the true *D. Menziesii*, although different from those of *D. filicaulis*, which had been confounded with it.

39. **D. calycina,** *Planch. in Ann. Sc. Nat. ser.* 3, ix. 299. Bulbous, with a slender rootstock. Leafy stem usually erect and slender, glabrous. Lower leaves few, reduced to small slender scales; stem-leaves on slender petioles, peltate orbicular or rarely slightly truncate and 2-angled on one side. Flowers apparently red or white, few in loose simple or rarely once-forked racemes. Sepals herbaceous, thin, very obtuse, 3 to 4 lines long after flowering, entire or scarcely denticulate, glabrous. Petals usually scarcely ex-



Gruchy & Leigh imp

Drosera Adelae F.M.

ceeding the calyx or not half as long again. Filaments more or less dilated under the anthers. Styles short, divided from the middle into exceedingly numerous short dichotomous branches forming dense globular tufts, often not longer than the entire portion.

W. Australia. King George's Sound, *Collie*, between Moore and Murchison rivers, *Drummond, 6th Coll. n.* 109. The specimens from both localities very similar.

Var. *minor.* Leaves and flowers much smaller, but the same style; filaments rather less dilated.—Between Moore and Murchison rivers, *Drummond, 6th Coll. n.* 110.

40. **D. heterophylla,** *Lindl. Swan Riv. App.* 20. Bulbous, with a slender stock, usually enclosed in numerous old scaly remains of leaves. Leafy stem simple, slender, glabrous, the short narrow-linear or subulate scales or leaves at the base more numerous than in other species; stem-leaves on slender petioles, usually small, peltate orbicular or slightly truncate and 2-angled on one side. Flowers solitary or rarely 2 or 3 in a simple raceme, large. Calyx-lobes usually 8, 2 to 3 lines long, nearly glabrous, fringed with prominent glands, but not ciliate. Petals 8, twice as long as the calyx-lobes, narrow, not so readily twisting up together after flowering as in other species. Styles repeatedly forked into very numerous short slender branches, stigmatic at the end, forming a short very dense tuft.—*Sondera Preissii*, Lehm. Pugill. viii. 45, and Pl. Preiss. i. 256 (in flower); *S. macrantha*, Lehm. l. c. (in fruit).

W. Australia. From King George's Sound to Swan River and Champion Bay, *Drummond, 1st Coll. and 2nd Coll. n.* 18, *Preiss, n.* 1989, *Oldfield*, and others.

41. **D. Banksii,** *R. Br. in DC. Prod.* i. 319. Stem filiform, leafy, glabrous, 2 to 4 in. long, very slender at the base, but possibly forming a bulb as in the preceding species. Leaves all scattered, peltate, orbicular, on slender petioles, the lower ones with a lamina of ½ line diameter, on a petiole of 1 to 2 lines, the upper ones twice as large or rather more. Stipules to some of the upper leaves very thin, narrow, scarious and deciduous. Flowers few, small, in a simple raceme like the smaller specimens of *D. peltata.* Pedicels nearly as long as the calyx. Sepals villous, 1 to 1½ lines long. Petals spreading, longer than the calyx. Styles (not seen by myself and imperfectly observed by Planchon) 3, divided to the base into 2 deeply 3-fid branches.—Planch. in Ann. Sc. Nat. ser. 3, ix. 291.

Queensland. Endeavour river, *Banks and Solander.*

2. BYBLIS, Salisb.

Calyx-segments or sepals 5. Petals 5, broad, oblique, united in a ring at the base, contorted-imbricate. Stamens 5, hypogynous, often declinate; anthers attached by the base, opening at the end in oblong pores or short slits. Ovary 2-celled, with several ovules in each cell attached to the dissepiment; style undivided, with a terminal oblong or capitate stigma. Capsule somewhat compressed, 2-celled, opening in 2 valves, bearing the dissepiment in their centre. Seeds oblong, albuminous. Embryo . . .—Herbs, more or less glandular-pubescent. Leaves linear-subulate, involute in vernation, without stipules. Peduncles axillary, bearing a single blue flower.

The genus is limited to Australia. It is very anomalous in the Order, with which it is chiefly connected by the glandular pubescence and the leaves involute in vernation. The flowers, especially those of *B. gigantea*, have a remarkable resemblance in structure to those of *Cheiranthera* in *Pittosporeæ.*

Stems slender. Leaves filiform, not above 2 in. long. Petals under ½ in.
Anthers oblong or almost ovate, nearly equal . . . . 1. *B. liniflora.*
Stems stout. Leaves often above 6 in. long. Petals ½ to 1 in. Anthers
oblong-linear, often unequal . . . . 2. *B. gigantea.*

1. **B. liniflora,** *Salisb. Parad. Lond. t.* 95. Glabrous or viscid with a glandular pubescence, sometimes copiously so. Stems slender, rarely 6 in. high and often only 2 or 3 in. Leaves filiform, 1 to 2 in. long. Peduncles slender, usually exceeding the leaves. Sepals lanceolate, acute, 2 to 3 lines long. Anthers varying from ½ line to 1½ lines in length, the filaments longest where the anthers are shortest.—DC. Prod. i. 319; Endl. Iconogr. t. 113 (incorrect as to the anthers); *B. filifolia*, Planch. in Ann. Sc. Nat. ser. 3, ix. 305.

N. Australia. N.W. coast, *Bynoe;* Hooker and Sturt's Creeks, Upper Victoria river, *F. Mueller;* islands of the Gulf of Carpentaria, *R. Brown;* adjoining mainland, *F. Mueller.*

Queensland. Shoalwater Bay, *R. Brown;* Port Denison, *Herb. F. Mueller.*

B. cærulea, Planch. in Ann. Sc. Nat. ser. 3, ix. 306, is founded on Bauer's drawing published by Endlicher of R. Brown's specimens, in which the short anthers are represented as attached by the middle of the back, and Planchon thought he recognized these anthers in the specimen glued down in the Banksian herbarium. The excellent specimens in Brown's own herbarium show however that this is a mistake. The anthers are often as short as figured by Bauer, sometimes as long as figured by Salisbury, but always attached by the base, and varying much in intermediate lengths in different specimens.

2. **B. gigantea,** *Lindl. in Swan Riv. App.* 21. More or less glandular-pubescent and viscid. Rootstock hard. Stems erect, stout, ½ to 1½ or even 2 ft. high. Leaves linear-subulate, terete or channelled above, often 6 in. to 1 ft. long. Peduncles mostly shorter than the leaves. Flowers much larger than in *B. liniflora*, sometimes twice as large, but otherwise like them and variable in size. Sepals lanceolate, acute, 3- to 7-nerved, either much shorter than the petals or produced into a glandular point sometimes exceeding the petals. Anthers usually linear, declinate, unequal, the shorter ones 2 lines, the longer 3 lines long, but variable in size and proportion, sometimes nearly equal and very little longer than the longest forms of *B. liniflora.*—Lehm. in Pl. Preiss. i. 257; Planch. in Ann. Sc. Nat. ser. 3, ix. 306; *B. Lindleyana*, Planch. l. c. 307.

W. Australia, *Drummond,* 1*st Coll.;* sandy places, Canning river, *Preiss, n.* 1993; Port Gregory, *Oldfield;* Hampden, *Clarke.* I can see no difference in the numerous specimens in different herbaria, except in the size as well of the plant as of the parts of the flower.

ORDER XLV. HALORAGEÆ.

Calyx-tube adnate to the ovary; lobes 2, 4 or none, or rarely 3. Petals 2, 4 or none, valvate induplicate or slightly imbricate. Stamens 2 to 8, rarely 1 or 3; filaments short; anthers erect, 2-celled, opening longitudinally. Ovary inferior, flattened or angular, either 2- or 3- or rarely 4-celled, with 1 pendulous ovule in each cell, or 1-celled with 1 to 4 pendulous ovules; styles as many as ovules, quite distinct, with papillose or plumose stigmas. Fruit

inferior, small, indehiscent, with 1 to 4 cells and seeds, or divisible into 2 to 4 1-seeded indehiscent carpels. Seeds pendulous, with a membranous testa; embryo cylindrical, in the axis of a fleshy albumen; radicle long, superior; cotyledons small.—Herbs, often aquatic, or undershrubs. Leaves opposite whorled or alternate, without stipules. Flowers small, often unisexual or incomplete, axillary or rarely in terminal corymbs racemes or panicles.

The Order is dispersed over nearly the whole globe. Of the Australian genera, 2 small ones are endemic; the principal one is also chiefly Australian, but two or three of the species extend also into Eastern Asia, or are, with a fourth genus, widely spread over the extra-tropical regions of the southern hemisphere. The three others are aquatic plants, represented nearly all over the globe.

A. **True Halorageæ.** *Flowers with petals, at least in the males, answering to the ordinal characters given above.*

Petals, at least in the males, induplicate, keeled. Fruit a nut-like or rarely spongy, undivided drupe.
  Flowers in dense terminal corymbose panicles, 2- 3- or 4-merous. Dissepiments of the ovary evanescent . . . . 1. LOUDONIA.
  Flowers solitary or clustered within each bract, along the rhachis of simple or paniculate terminal racemes.
    Flowers 3- or 4-merous . . . . 2. HALORAGIS.
    Flowers 2-merous . . . . 3. MEIONECTES.
Petals in the males imbricate. Fruit separable into 2 or 4 nut-like carpels. Aquatic or mud plants . . . . 4. MYRIOPHYLLUM.

B. *Anomalous genera of a very reduced type allied to* Halorageæ, *but often referred to* Monochlamydeæ. *Flowers unisexual.*

Calyx-teeth minute. Petals (in Australian species) none. Stamens 2. Ovary 1-celled, with 1 ovule. Styles 2 or rarely 4. Terrestrial stemless plants, with broad radical leaves and radical scapes 5. GUNNERA.
Perianth none. Flowers surrounded by bracts. Stamens several. Ovary 1-celled, with 1 ovule. Styles 2. Floating plant, with verticillate dichotomous leaves. . . . . 6. CERATOPHYLLUM.
Perianth none. Flowers with or without 2 bracteoles. Stamen 1. Ovary 4-celled, with 1 ovule in each cell. Styles 2. Aquatic or mud plant, with opposite entire leaves . . . . 7. CALLITRICHE.

A. TRUE HALORAGEÆ.

1. LOUDONIA, Lindl.

(Glischrocaryon, *Endl.*)

Calyx-tube or ovary with 2 to 4 longitudinal wings or angles; lobes 2 to 4, short, alternating with the wings. Petals as many as calyx-lobes, induplicate, deciduous. Stamens twice as many as petals; filaments filiform, persistent, anthers oblong or linear, deciduous. Ovary 1-celled, with 2 to 4 pendulous ovules, or imperfectly divided into as many cells; styles short, rather thick, with terminal obtuse stigmas. Fruit a small 1-seeded nut, the adnate calyx winged or inflated.—Glabrous herbs, with a perennial rootstock and erect stems. Leaves alternate, linear. Flowers yellow, in dense terminal corymbose panicles.

The genus is limited to Australia. It differs from *Haloragis* more in habit and inflorescence than in floral characters. The characters by which the species are distinguished from each other may possibly not be found to be really constant.

Flowers 2-merous, rarely 3-merous . . . . 2. *L. Behrii.*

Flowers 4-merous.
  Calyx and epicarp closely adnate to the endocarp, with 4 prominent wings. . . . . 1. *L. aurea.*
  Calyx and epicarp inflated and connected with the endocarp by a loose spongy substance, with 4 scarcely prominent wings or angles . . . 3. *L. Roei.*

1. **L. aurea,** *Lindl. Swan Riv. App. 42, with a woodcut.* Quite glabrous. Rootstock woody. Stems erect, simple or slightly branched, 1 to 2 or even 3 ft. high, glaucous or yellowish, often turning black in drying. Leaves linear, quite entire, distant or more crowded towards the base of the stem, rarely 2 in. long and often much smaller, sometimes 1 to 2 lines broad and flat, sometimes very narrow and thick, almost terete. Flowers golden-yellow, in terminal corymbose panicles. Calyx-tube 4-winged, about 2 lines long in the ordinary form, the lobes short and broad. Petals about as long as the calyx-tube. Stamens in the perfect flowers 8. Styles 4, short, thick, club-shaped, with ovoid stigmas. Ovules 4, but only 1 enlarges after flowering. Fruit varying from 2 to 3 lines in length, the wings usually broad. In some specimens the flowers are smaller and mostly females, without any or with very few stamens.—Nees in Pl. Preiss. i. 159; *L. flavescens*, J. Drumm. in Hook. Lond. Journ. i. 396 (with smaller flowers); *L. citrina*, F. Muell. in Linnæa, xxv. 385.

S. Australia. Rocks and gravelly banks of streams, Flinders range and near Cudnaka, *F. Mueller*. I am unable to discover any difference between these specimens and some of Drummond's.

W. Australia. Swan River, Darling range, etc., *Drummond*, *1st Coll.*, *Collie*, *Preiss*, *n.* 2067, 2068, 2079; Champion Bay, *Oldfield;* Eyre, Phillips, and Fitzgerald ranges, *Maxwell.*

2. **L. Behrii,** *Schlecht. Linnæa*, xx. 618. Very near the poorer specimens of *L. aurea*, with the same habit. Stems generally shorter. Leaves narrow and small, often few and distant, rarely crowded. Panicles small and dense. Flowers of the size of the smaller varieties of *L. aurea*, usually with 2 wings to the calyx-tube, 2 petals, 4 stamens, 2 styles and ovules, and a broadly 2-winged fruit, but sometimes a third part is added to each.

Victoria. Mount Corong and N.W. desert to the Murray, *F. Mueller;* Wimmera, *Dallachy.*

S. Australia. Gregarious in barren sandy soils, *Behr;* Mount Barker Creek, Gawlertown, etc., *F. Mueller;* Kangaroo Island, *Waterhouse.*

3. **L. Roei,** *Schlecht. Linnæa*, xx. 618. Stems erect, simple and glabrous, as in the other two species. Leaves few, small, linear, distant. Panicle small and dense. Flowers of the size of the smaller varieties of *L. aurea*, or still smaller. Calyx-tube with 4 narrow shortly decurrent wings. Petals as in *L. aurea*, but smaller. Stamens 8 (or sometimes 12?); anthers not much longer than the filaments. Fruit yellow, almost globular, with 4 prominent angles or narrow wings, about 3 lines diameter, the inflated calyx-tube and epicarp connected with the endocarp by a very loose, spongy, almost fibrous substance. Seeds as in *L. aurea.*

W. Australia. Fitzgerald range, *Maxwell.* Endlicher's description of *Glischrocaryon Roei*, Endl. in Ann. Wien. Mus. ii. 210, agrees precisely with Maxwell's specimens after the petals and anthers have fallen away, except that the number of "stamina sterilia" (persistent filaments after the anthers have fallen) is 12 instead of 8. The remarkable spongy inflated fruit, if really normal, is very characteristic of the species.

2. HALORAGIS, Forst.

(Cercodia, *Murr.*; Goniocarpus, *Kœn.*)

Calyx-tube or ovary with as many or twice as many nerves as lobes, those alternating with the lobes occasionally expanded into angles or wings; lobes 4, rarely 3 or abnormally 5, short. Petals as many as calyx-lobes, induplicate and boat-shaped or hood-shaped, deciduous, often wanting in female flowers. Stamens twice as many as petals or fewer, those opposite the petals and enclosed in them always present in complete or male flowers, one or more of the alternate ones occasionally wanting, and female flowers usually without any; anthers oblong or linear, deciduous; filaments short. Ovary 2- to 4- or rarely 5-celled, with 1 pendulous ovule in each cell; styles short and thick, stigmatic at the top, often plumose in the female flowers. Fruit a small, 2- to 4- or rarely 5-celled drupe or nut, the adnate calyx either smooth or variously ribbed, angled, winged, or muricate.—Herbs or undershrubs, glabrous scabrous or hispid. Leaves alternate or opposite, entire toothed or lobed. Flowers small, solitary or several together in the axils of the floral leaves or bracts, forming leafy or leafless racemes, either simple or in a branching terminal panicle. Pedicels usually very short, with two small opposite often deciduous bracteoles under the flower.

The genus is chiefly Australian, but a few species are also found in New Zealand, in Eastern Asia, in S. Africa, and extratropical S. America. Of the 36 Australian species, 1 extends to New Zealand and the island of Juan Fernandez, 2 to New Zealand and Eastern Asia, 1 to New Zealand only, the remaining 32 are endemic. The characters derived from the ribs and wings of the fruit, upon which the genus had been divided into three, are either too little in accordance with other distinctions, or too variable in certain species, to be available even as sectional. Most of the species are monœcious, the female flowers variously mixed in with the males, and although I have frequently had specimens with the flowers all of one or the other kind, I have not been able to ascertain that any species is constantly diœcious. The males have never plumose stigmas, but I always find small obtuse styles and their corresponding ovules, which appear often to come to perfection. The females have usually smaller petals or none at all, fewer stamens or none or filiform filaments only. As the differences between the two are probably the same in nearly all the species, I have not alluded to them in the specific characters.

SERIES I. **Alternifoliæ.** *Leaves all alternate or rarely here and there irregularly opposite, or (in some specimens of* H. hexandra *and* H. ceratophylla*) a few of the lower ones, or those of barren shoots only, opposite.*

Leaves narrow-linear, entire.
Glabrous, small and slender. Leaves very small. Flowers solitary, minute. Styles and ovules 4 . . . . 22. *H. pusilla.*
Glabrous. Flowers mostly clustered. Fruit not ribbed.
Styles and ovules 2, rarely 1. Fruit globular . . . . . . 1. *H. digyna.*
Styles and ovules 4 or sometimes 3. Fruit ovoid . . . . 2. *H. mucronata.*
Sprinkled with a few hairs. Flowers solitary or 2 together. Fruit 8-ribbed.
Calyx-lobes ovate. Petals deciduous . . . . 3. *H. pithyoides.*
Calyx-lobes cordate. Petals reflexed, persistent . . . . . 4. *H. cordigera.*
Densely hirsute. Fruit ovoid, muricate . . . . 5. *H. elata.*
Leaves linear or lanceolate, the larger ones with a few coarse teeth or pinnatifid.
Western species.
Styles and ovules 1, 2, or 3.
Glabrous. Calyx-lobes, petals, styles, and ovules usually 3, stamens 6. Fruit smooth . . . . 6. *H. tenuifolia.*

Glabrous. Calyx-lobes and petals 4; stamens 8; styles and ovules 1 or 2. Fruit 8-ribbed . . . . 7. *H. scoparia.*
Leaves bordered with minute tooth-like points. Calyx-lobes and petals 4; styles and ovules 2 or 3. Fruit smooth . 8. *H. aculeolata.*
Styles and ovules 4.
Slightly hairy. Calyx-lobes cordate. Ovary acutely 4-angled . . . . 9. *H. foliosa.*
Glabrous. Calyx-lobes almost cordate. Fruit depressed-globular, almost spongy, not angled. Flowers minute . 10. *H. platycarpa.*
Glabrous. Leaves linear-lanceolate, the teeth short . . . 2. *H. mucronata.*
Eastern species. Glabrous or scabrous. Styles and ovules 4.
Leaves nearly sessile. Flowers mostly solitary.
Fruit ovoid-globular, often muricate, not angled . . . . 11. *H. ceratophylla.*
Fruit acutely angled . . . . 12. *H. acutangula.*
Leaves lanceolate, distinctly petiolate. Flowers clustered.
Fruit muricate and angled . . . . 14. *H. odontocarpa.*
Leaves linear to oblong, entire or minutely toothed, those of barren branches often opposite.
Calyx-lobes, petals, styles, and ovules mostly 3; stamens 6 . . 13. *H. hexandra.*
Calyx-lobes, petals, styles, and ovules 4; stamens 8 . . . . 11. *H. ceratophylla.*

SERIES 2. **Oppositifoliæ.**—*Stem-leaves all opposite or rarely the uppermost alternate (or nearly all in* H. pusilla). *Floral-leaves or bracts alternate or rarely the lowest opposite.*

Styles and ovules 2. Leaves lanceolate. Flowers mostly clustered.
Leaves serrate . . . . 15. *H. serra.*
Leaves entire . . . . 16. *H. glauca.*
Styles and ovules 4.
Leaves distinctly petiolate, lanceolate or oblong, serrate. Flowers mostly clustered.
Leaves broadly lanceolate or oblong. Fruit ovoid, not inflated, terete or 4-winged . . . . 17. *H. alata.*
Leaves narrow-lanceolate. Fruit 4-angled, the epicarp inflated and connected with the endocarp by a loose network . . . 18. *H. racemosa.*
Leaves nearly sessile (except in *H. nodulosa*). Flowers solitary or rarely 2 together (clustered in *H. stricta* and *H. lanceolata*).
Western species. Flowers minute. Racemes paniculate (except in *H. lanceolata*).
Hirsute with spreading hairs.
Leaves broadly ovate-cordate, regularly toothed . . . . 19. *H. rotundifolia.*
Leaves obovate-oblong or lanceolate, almost entire . . . 20. *H. rudis.*
Glabrous or with a few scattered hairs.
Leaves few, narrow-linear, scarcely toothed. Bracts minute or none.
Tall and erect. Leaves ½ to 1 in. long. Racemes paniculate . . . . 21. *H. paniculata.*
Small and slender. Leaves small and few, mostly alternate. Racemes simple. . . . . 22. *H. pusilla.*
Leaves ovate-lanceolate or oblong, deeply toothed. Racemes flexuose. Bracts often as long as the flowers. Fruit globular . . . . 23. *H. intricata.*
Leaves petiolate, oblong, obscurely toothed. Racemes flexuose. Bracts petiolate. Fruit urceolate, muricate, with a smooth neck . . . . 24. *H. nodulosa.*
Leaves oblong or cuneate, nearly entire. Racemes filiform, paniculate. Bracts minute or none . . . . . 25. *H. trichostachya.*
Leaves lanceolate or oblong, entire. Racemes slender, simple. Bracts longer than the minute flowers . . 26. *H. lanceolata.*

Eastern species.
Glabrous or nearly so. Leaves ovate or orbicular. Flowers minute, in filiform leafless panicles . . . . 27. *H. micrantha.*
Scabrous or hirsute.
Leaves linear or linear-lanceolate, entire or with small distant teeth . . . . 28. *H. stricta.*
Lower leaves divided into narrow linear lobes.
Lobes above the middle of the leaf almost digitate . . 29. *H. heterophylla.*
Lobes pinnately disposed along the rhachis . . . . 30. *H. pinnatifida.*
Leaves broadly toothed or crenate.
Leaves oblong, often 1 in. long. Fruit small, narrow. Bracts minute . . . . 31. *H. acanthocarpa.*
Leaves ovate or oblong, under ½ in. long, narrowed at the base. Fruit small, nearly globular. Upper bracts minute . . . . 32. *H. tetragyna.*
Leaves broadly ovate, rounded or cordate at the base. Fruit globular. Bracts exceeding the flower . . . 32. *H. teucrioides.*

SERIES 3. **Oppositifloræ.** *Floral leaves and flowers all or nearly all opposite, as well as the stem-leaves. Flowers solitary in each axil.*

Stems hirsute. Leaves deeply serrate, ovate or oblong . . . . 34. *H. scordioides.*
Minutely scabrous. Leaves ovate or ovate-lanceolate, small, entire or slightly toothed . . . . 35. *H. depressa.*
Nearly glabrous. Leaves narrow-linear or terete, mostly entire . . 36. *H. salsoloides.*

H. cyathiflora, Fenzl, in Hueg. Enum. 44, described from a Swan River specimen of Huegel's with male flowers only, which I have not seen, can scarcely belong to this genus. The habit and foliage must be nearly that of *H. digyna*, but with a disk-shaped, 5- to 8-toothed calyx, twice as many stamens as calyx-teeth, and neither petals nor rudiment of the ovary, both of which exist in the male flowers of all the other species.

H. trifida, Walp. Rep. v. 672, or *Goniocarpus trifidus*, Nees in Pl. Preiss. i. 159, is described as having the lower leaves in whorls of three, the upper ones opposite, all filiform and trifid. In the fragments of Preiss, n. 2401, in Sonder's herbarium, the leaves are alternate and there are no flowers. The species must therefore remain doubtful until further investigated from better specimens.

1. **H. digyna,** *Labill. Pl. Nov. Holl.* i. 101, *t.* 129. Tall and glabrous, with terete branches. Leaves alternate, linear, usually terminating in a minute white callous point, rarely exceeding 1 in. in length, rather thick, entire or very obscurely toothed, the floral ones smaller but exceeding the flowers. Flowers shortly pedicellate, pendulous, clustered in the upper axils forming terminal leafy racemes. Calyx-lobes ovate-lanceolate, not cordate. Petals 4, at least 1 line long, hood-shaped, glabrous or slightly ciliate on the keel. Stamens 8 or occasionally 6. Styles and ovules 2, or rarely 1 only. Fruit nearly globular, smooth, not ribbed, crowned by the small erect calyx-lobes.

W. Australia, *Labillardière, Maxwell,* in both cases probably from King George's Sound or to the eastward.

2. **H. mucronata,** *Benth.* Usually glabrous, with the aspect of *H. digyna*, but smaller and more slender. Leaves alternate, usually narrow-linear, rather thick or semiterete, quite entire, ½ to above 1 in. long, usually but not always terminating in a minute callous point, the floral ones similar but shorter; in the barren shoots the leaves are sometimes broader, with a few teeth. Flowers glabrous, much smaller than in *H. digyna*, nearly sessile, clustered in the upper axils, forming leafy racemes. Calyx-lobes short,

triangular. Petals 4, not ¾ line long. Stamens usually 8. Styles and ovules 4 or rarely 3. Fruit small, ovoid, glabrous, smooth or slightly 8-ribbed, crowned by the small erect calyx-lobes.—*Goniocarpus mucronatus*, Nees in Pl. Preiss. ii. 225.

Victoria. Heaths near Fitzroy river and marshes near Portland, *Robertson.*

S. Australia. Kangaroo Island, *R. Brown;* Murray scrub and Onkaparinga river, *F. Mueller.*

W. Australia. Bald Head, King George's Sound, *R. Brown;* muddy soil near Vasse river, *Preiss, n.* 1221.

I can find no difference between the S. Australian and western specimens. It is possible they may both prove to be varieties of *H. digyna;* but in the latter, although the flowers are considerably larger, they appear never to have more than two styles and ovules.

3. **H. pithyoides,** *Benth.* Slender but rigid, erect, with numerous virgate branches, ½ to 1 ft. high, glabrous or sprinkled with a few hairs, usually of a glaucous or blackish tint when dry. Leaves alternate, narrow-linear, thick or semiterete, rarely above ½ in. long, entire, the floral ones small and mostly reduced to bracts shorter than the flowers. Flowers small, usually solitary, in slender racemes, forming a terminal panicle scarcely leafy at the base. Calyx-tube turbinate, 8-ribbed, usually hispid; lobes ovate, not cordate, quite glabrous. Petals 4, hood-shaped, about ¾ line long, ciliate on the keel, not reflexed. Stamens 8. Styles and ovules 4. Fruit small, ovoid-globular, with 8 prominent ciliate almost aculeate ribs, and crowned by the glabrous calyx-limb. —*Goniocarpus pithyoides*, Nees in Pl. Preiss. ii. 225.

W. Australia. Swan River, *Preiss, n.* 1224; *Drummond, Clarke.*

4. **H. cordigera,** *Fenzl, in Hueg. Enum.* 45. Erect, with slender but rigid terete branches, attaining 1 ft. or more, sprinkled with a few hairs. Leaves alternate, narrow-linear, thick or semiterete, under 1 in. and often under ½ in. long, entire or rarely obscurely toothed, the floral ones reduced to minute bracts. Flowers mostly solitary, pendulous, on short pedicels, in slender racemes, forming a terminal leafless panicle. Calyx-lobes rather large, remarkably cordate and almost peltate, erect. Petals 4, above 1 line long, hood-shaped, ciliate on the keel, reflexed immediately on expanding and remaining long persistent. Stamens usually 8. Styles 4, longer than in most species. Young fruit nearly globular, 8-ribbed, but not seen ripe.—Hook. Ic. Pl. t. 598; *Goniocarpus cordiger*, Nees in Pl. Preiss. ii. 226.

W. Australia. Swan River, *Huegel, Drummond, 1st Coll. and 4th Coll. n.* 83, *Preiss, n.* 1[illegible]23. I have not seen Huegel's own specimens, but the description is very accurate.

5. **H. elata,** *A. Cunn.; Fenzl, in Hueg. Enum.* 45. Rather coarse, with erect or ascending branches, ½ to 1½ ft. high, hirsute with spreading hairs. Leaves alternate, or a few very rarely irregularly opposite, linear, acutely acuminate, ½ to 1 in. long, with revolute margins, entire or rarely with a few short teeth, the floral ones smaller but mostly exceeding the flowers. Flowers solitary, not very small, in terminal racemes, forming a narrow leafy panicle. Calyx hirsute, the lobes not cordate. Petals 4, ciliate on the keel. Stamens usually 8. Styles and ovules 4. Fruit small, ovoid, prominently muricate. —Schlecht. Linnæa, xx. 648.

N. S. Wales. Barren rocky ridges, W. from Wellington valley, *A. Cunningham.*

S. Australia. Barossa range, *Behr*; Mount Lofty ranges and near Lake Torrens, *F. Mueller.*

6. **H. tenuifolia,** *Benth.* Tall, glabrous, and erect, from a shortly creeping base; branches terete and smooth. Leaves alternate, narrow-linear, the larger ones 1 to 2 in. long with a few narrow linear lobes, the floral ones gradually reduced to small bracts. Flowers on very short pedicels, mostly in clusters of 2 or 3, forming terminal racemes leafy at the base. Calyx-lobes 3, broad but scarcely cordate. Petals 3, above 1 line long. Stamens 6. Styles and ovules 3. Young fruits ovoid, above 1 line long, not ribbed, crowned by the calyx-lobes, 3-celled or very rarely 2-celled.

W. Australia, *Drummond, 4th Coll. n.* 86. With the habit of *H. scoparia*, this species has a more slender foliage, almost approaching that of *Meionectes*, with the ternary flowers of *H. hexandra*, and the fruit apparently of *H. aculeolata.*

7. **H. scoparia,** *Fenzl, in Hueg. Enum.* 45. Tall, glabrous, and erect; branches terete and smooth. Leaves alternate, linear or linear-lanceolate, acute, the larger ones 1 to 2 in. long with a few remote very prominent teeth or lobes, the upper ones entire, the floral ones gradually reduced to small bracts. Flowers on very short pedicels, in clusters of 2 or 3, forming long loose terminal racemes leafy at the base. Calyx-lobes short, broad, almost cordate. Petals 4, about 1 line long. Stamens 8. Styles and ovules 1 or 2, the stigmas apparently not plumose even in the females. Ovary after flowering prominently 8-ribbed. Fruit not seen.

W. Australia, *Huegel, Drummond, 4th Coll. n.* 82. I have not seen Huegel's specimen, but the description leaves no doubt as to its identity.

8. **H. aculeolata,** *Benth.* Erect, virgate, about 1 ft. high in our specimens, the stem terete and glabrous or with slightly prominent ciliolate or aculeolate angles. Leaves alternate, narrow-linear, mucronate entire or more frequently with a few distant prominent teeth or lobes, as in *H. scoparia*, but also bordered with very short, rigid, cartilaginous points or minute teeth, the floral leaves smaller, but all much exceeding the flowers. Flowers apparently solitary or 2 together, in loose terminal leafy racemes, but not seen perfect. Fruit ovoid, almost corky, above 1 line long, quite glabrous, without prominent ribs, crowned by the 4 connivent, triangular, not cordate calyx-lobes; cells 2 or very rarely 3.

W. Australia, *Clarke.* The specimens are not good, but I cannot match them with any of the allied species. The foliage is nearly that of *H. scoparia* and *H. foliosa*, the shape of the fruit and calyx-lobes that of *H. tenuifolia*, but with a different number of parts.

9. **H. foliosa,** *Benth.* Tall and erect, sprinkled with a few short spreading hairs. Leaves alternate, linear-lanceolate, acute, mostly ¾ to 1½ in. long, with a few remote, acute, very prominent teeth, or the upper ones entire, narrowed at the base but scarcely petiolate, the floral ones shorter and more lanceolate, but nearly all exceeding the flowers. Racemes terminal, leafy, rather dense. Flowers usually clustered in the axils, nearly sessile. Calyx-lobes cordate, acutely acuminate. Petals 4, above 1 line long, often ciliate on the keel. Stamens 8 or sometimes 6 only. Styles and ovules 4. Ovary after flowering acutely 4-angled. Ripe fruit not seen.

W. Australia. Between Moore and Murchison rivers, *Drummond, 6th Coll. n.* 82.

10. **H. platycarpa,** *Benth.* Erect, glabrous, under 1 ft. high in our specimens, the branches rather slender, terete. Leaves alternate, linear or lanceolate, acute, the larger ones ¾ to 2 in. long, with a few remote prominent teeth or lobes, narrowed at the base into a short petiole, the floral ones gradually reduced to small bracts. Flowers very small, pedicellate, solitary or 2 or 3 together under each bract, in slender terminal racemes leafy at the base. Calyx-lobes ovate, acuminate, almost cordate. Petals 4, scarcely above ¼ line long in the females, ½ line or rather more in the males. Stamens usually 6. Styles and ovules 4. Fruit depressed-globular, nearly 2 lines diameter, with a loose almost spongy epicarp and a crustaceous endocarp, 4-nerved, the top almost disk-like, with the small connivent calyx-lobes in the centre. Rarely the parts of the flowers and fruit are in fives instead of fours.

W. Australia. Swan River, *Drummond, 1st Coll. and n.* 705.

11. **H. ceratophylla,** *Endl. Atakta*, 16, *t.* 15. Glabrous and glaucous or scabrous, with minute rigid hairs, rather coarse but not usually tall, the decumbent or ascending angular stems rarely exceeding 1 ft. Leaves alternate or rarely a few of the lower ones or those of barren side-shoots opposite, either linear or linear-lanceolate with coarse distant teeth or lobes, or shortly pinnatifid, or sometimes nearly all entire, linear-oblong, and obtuse, usually rather thick with very scabrous margins, from ½ to 1½ in. long, the floral ones gradually reduced to small bracts. Flowers nearly sessile, solitary or 2 together, usually much larger than in *H. tetragyna* and *H. heterophylla*, in long terminal racemes leafy at the base. Calyx-lobes lanceolate-triangular. Petals 4, about 1 line long, the keel scabrous-hirsute. Stamens usually 8. Styles and ovules 4. Fruit ovoid or globular, much larger than in *H. tetragyna*, scarcely ribbed but sometimes very rugose or muricate.—*H. aspera*, Lindl. in Mitch. Trop. Austr. 306; *H. pinnatifida*, Hook. f. Fl. Tasm. i. 119, but not of A. Gray.

Queensland. Bargoo (Victoria) river, *Mitchell*; Rockhampton, *Dallachy*; Warwick, *Beckler*.

N. S. Wales. From the Darling to Cooper's Creek, *Victorian Expedition*; very common in all the swamps of the interior, *Fraser*.

Victoria. Scrub of the N.W. parts of the colony towards the Murray, *F. Mueller*; Wimmera, *Dallachy*.

Tasmania. Herdsman's Cove, Derwent river, *R. Brown*; N. coast and S. Esk river, *J. D. Hooker*.

S. Australia. Frequent on the Murray, Gawler river, Cudnaka, Mount Remarkable, etc., *F. Mueller*; Spencer's Gulf, *Warburton*; Port Lincoln, *Wilhelmi*.

I have not seen authentic specimens of Endlicher's plant, but the figure appears to me to represent this species rather than *H. heterophylla*, which is also in R. Brown's collection, and of which some coarse specimens, not well in flower, resemble the more slender ones of *H. ceratophylla*.

12. **H. acutangula,** *F. Muell. in Trans. Vict. Inst.* 1855, 125. A glabrous, glaucous, rather coarse species, with the habit, narrow toothed leaves, inflorescence, and flowers of *H. ceratophylla*, of which it may prove to be a variety, differing in the fruit prominently and acutely 4-angled, and smooth between the angles.

S. Australia. Port Lincoln, *Wilhelmi*.

13. **H. hexandra,** *F. Muell. Fragm.* iii. 31. Glabrous, diffuse, much-

branched, some specimens under ½ ft., others above 1 ft. long, the branches slightly angular. Leaves alternate, or a few of the lowest or on some barren shoots opposite, from oblong-lanceolate to linear, acute, ½ to 1½ in. long, entire or with a few minute remote teeth, narrowed at the base but scarcely petiolate, rather thick, the floral ones smaller and narrower, but all much exceeding the flowers. Flowers very small, pendulous, usually 2 together in each axil, forming slender terminal leafy racemes. Pedicels usually short, but sometimes longer than the flowers. Calyx-lobes 3 or rarely 4, ovate-triangular. Petals usually 3, even where the calyx is 4-merous, little more than ½ line long. Stamens 6. Styles and ovules 3. Fruit very small, ovoid, with 6 ribs, occasionally prominent and tuberculate-rugose.

W. Australia, *Drummond, 4th Coll. n.* 51; bogs near Wilson's Inlet, *Oldfield.*

14. **H. odontocarpa,** *F. Muell. Fragm.* i. 108. Apparently tall, glaucous and nearly glabrous or loosely hairy. Leaves alternate, distinctly petiolate, lanceolate, mostly 1 to 1½ in. long, coarsely serrate and rather thick, the floral ones very small, mostly reduced to bracts shorter than the flowers. Flowers clustered, in terminal racemes, smaller than in *H. ceratophylla.* Calyx-lobes short, acute, ciliate. Petals 4, scarcely 1 line long. Stamens 8. Styles and ovules 4. Fruit ovoid, above 1 line long, prominently 4-angled or almost winged, more or less muricate, and often with 1 or 2 thick prominent conical or tooth-like protuberances on each of the 4 sides.

N. S. Wales. Kulkyne on the Darling, *Goodwin and Dallachy.* The habit and petiolate leaves are those of *H. alata*, but the leaves appear to be all alternate, and the echinate points, if constant, are quite characteristic.

15. **H. serra,** *Brongn. in Duperr. Voy. t.* 69. Erect, branching, quite glabrous or the angles of the stem and edges of the leaves minutely scabrous. Stem-leaves opposite, lanceolate, acute, regularly and sharply serrate, narrowed at the base but scarcely petiolate, the floral ones alternate, mostly reduced to small bracts. Flowers glabrous, rather small, distinctly pedicellate, mostly clustered, in slender racemes, leafy at the base. Calyx-lobes short. Petals 4, nearly 1 line long. Stamens 8 or fewer. Styles and ovules 2. Fruit small, 2-celled, smooth or obscurely rugose.

N. S. Wales. Common about Clifton, New England, *C. Stuart;* near Castlereagh, *C. Moore;* Liverpool range, *Leichhardt.*

16. **H. glauca,** *Lindl. in Mitch. Trop. Austr.* 91. Apparently annual, tall and erect, slightly branched, quite glabrous and glaucous with terete stems. Stem-leaves opposite, lanceolate, acute, entire or slightly serrate, narrower than in *H. serra*, the floral ones alternate and gradually reduced to small bracts. Flowers glabrous, pendulous but scarcely pedicellate, mostly clustered, in terminal racemes leafy at the base. Calyx-lobes lanceolate or oblong. Petals 4. Stamens 6 to 8. Styles and ovules 2. Fruit globular, rugose, 2-celled.

N. S. Wales. Swamps of the Narran, *Mitchell (Herb. Lindley).* Very near *H. serra*, and perhaps a variety, but the aspect too dissimilar to justify the uniting it without seeing intermediate specimens.

17. **H. alata,** *Jacq. Ic. Pl. Rar.* i. 7, *t.* 69. A tall erect species, apparently glabrous, but scabrous with minute asperities only visible under a lens,

the branches acutely angular. Stem-leaves opposite, distinctly petiolate, from ovate-lanceolate to oblong, ¾ to 1½ in. long, or the lower ones sometimes twice that size, regularly and sharply serrate, the floral ones mostly alternate and small. Flowers shortly pedicellate, clustered and drooping, forming terminal racemes leafy at the base. Calyx-lobes broad. Petals 4, about 1 line long, glabrous. Stamens 8. Styles and ovules 4. Fruit rather small, globular or ovoid, with 4 ribs scarcely prominent in most of the Australian specimens, more or less dilated into wings in most of the New Zealand ones, but variable in both countries, smooth or rugose between the ribs.—Hook. f. Fl. N. Z. i. 62; *Cercodia erecta*, Murr.; DC. Prod. iii. 67.

N. S. Wales. Grose river, *R. Brown;* Nepean river, *Woolls;* Castlereagh river, *C. Moore;* Clarence and Richmond rivers, *Beckler;* New England, *Leichhardt* (the latter doubtful, leaves narrower and almost entire).

Victoria. Port Phillip, *Gunn.*

Also in New Zealand and in the island of Juan Fernandez.

18. **H. racemosa,** *Labill. Pl. Nov. Holl.* i. 100, *t.* 128. A glabrous erect herb or undershrub attaining 5 or 6 ft., with the acutely angular branches and general aspect of *H. alata.* Stem-leaves opposite, distinctly petiolate, narrow-lanceolate, regularly and acutely serrate, often above 2 in. long, the floral ones alternate, gradually reduced to bracts. Flowers pedicellate, clustered in the upper axils, forming terminal leafy thyrsoid panicles. Calyx-tube acutely 4-angled, the lobes broad and short. Petals 4, about 1 line long, mucronate. Stamens 8. Styles 4, rather long; ovules 4. Fruit 3 or even 4 lines long, acutely 4-angled or winged, crowned by the short connivent calyx-lobes, quite smooth, the thin somewhat inflated epicarp connected with the endocarp by a loose network or spongy substance as in *Loudonia Roei.*—*Cercodia racemosa,* DC. Prod. iii. 67.

W. Australia. S. coast, *Labillardière, R. Brown;* dry sandy places, Nornalup inlet, *Maxwell.*

19. **H. rotundifolia,** *Benth.* Apparently annual, erect, branching from the base, attaining 1 ft. or rather more, hirsute with spreading hairs. Stem-leaves opposite, nearly sessile, ovate-orbicular, mostly ½ to ¾ in. long, regularly crenate-serrate, cordate at the base, the floral ones and minute bracts alternate. Racemes filiform, in a terminal panicle, leafy only at the base. Flowers minute, solitary and distant, glabrous or minutely pubescent. Calyx-lobes broadly ovate, almost cordate. Petals 4, about ½ line long. Styles and ovules 4. Fruit ovoid-oblong, not ½ line long, 8-ribbed, smooth or obscurely rugose.

W. Australia. Swan River, *Drummond, 1st Coll.;* Flinders Bay, *Collie.*

20. **H. rudis,** *Benth.* Low and diffuse but coarse, densely hirsute with spreading hairs, the stems hard and almost woody at the base, but perhaps annual. Stem-leaves opposite, from obovate-oblong to almost lanceolate, entire or with a few small teeth, under ½ in. long, narrowed at the base, rather thick, hispid on both sides, the floral ones small narrow and alternate as well as the minute bracts. Racemes short and slender, in small terminal panicles, leafy at the base only. Flowers very small, the males not seen. Calyx-lobes 4, ovate-triangular. Styles and ovules 4. Fruit very small, nearly globular, slightly constricted under the persistent calyx-limb.

W. Australia, *Drummond, 4th Coll. n.* 81.

21. **H. paniculata,** *R. Brown, Herb.* Erect, very slender, and but little branched below the inflorescence, glabrous or slightly hairy. Stem-leaves opposite, few in distant pairs, linear, obtuse, ½ in. long or more, entire or obscurely crenate, narrowed at the base but not petiolate, the floral ones reduced to minute alternate bracts. Racemes slender, divaricate, in a loose terminal panicle. Flowers very small, solitary or 2 together. Calyx-tube 8-ribbed, shortly ciliate, the lobes ovate, not cordate, glabrous. Petals 4, about ½ line long. Stamens 8. Styles and ovules 4. Fruit only seen when young.

W. Australia. King George's Sound, *R. Brown, Harvey.*

22. **H. pusilla,** *R. Br. Herb.* A small slender annual, branching at the base only, most of the specimens not above 2 or 3 in. high and quite glabrous. Lower leaves opposite, linear, entire, 2 to 3 lines long, upper ones smaller and alternate, the floral ones reduced to minute bracts. Flowers solitary under each bract, very small and distant, sometimes scarcely forming a terminal raceme. Petals 4, not above ½ line long. Stamens 8. Styles and ovules according to R. Brown's notes 4. Fruit as small as in *H. micrantha*, nearly globular, 8-ribbed.

W. Australia. To the E. of King George's Sound, *R. Brown (Herb. R. Br.)*

Var. β) *subaphylla.* Stems slender and wiry, 3 to 6 in. long, almost leafless. Flowers few and very distant.—S. coast, *R. Brown.*

23. **H. intricata,** *Benth.* Diffuse or ascending and very much branched, glabrous or sprinkled with a few rather rigid hairs, branchlets filiform, very flexuose. Stem-leaves opposite, ovate-lanceolate or oblong, acutely and coarsely serrate, under ½ in. long, the floral ones alternate, mostly reduced to small narrow bracts often as long as the flower. Racemes filiform, flexuose, forming very much branched terminal panicles leafy at the base. Flowers minute, solitary, distant, hispid with a few stiff hairs. Calyx-lobes small, cordate. Petals 4, scarcely ½ line long. Stamens usually 8. Styles and ovules 4. Fruit minute, globular, obscurely angled, but not seen ripe.

W. Australia, *Drummond, 5th Coll. n.* 39.

24. **H. nodulosa,** *Walp. Rep.* v. 672. Apparently annual, much branched, rarely exceeding ½ ft., sprinkled with a few short rigid hairs, branches slender, flexuose. Stem-leaves opposite, oblong, entire or obscurely toothed, under ½ in. long, narrowed into a distinct petiole; the floral ones alternate, small, yet all petiolate and exceeding the flowers. Racemes slender, flexuose, paniculate, leafy at the base. Flowers minute, solitary, distant, and nearly sessile. Calyx-tube urceolate, about ½ line long, lobes small, not cordate. Petals 4, scarcely ½ line long. Stamens in the flower examined 4 only. Styles and ovules 4. Fruit about ¾ line long, globular and muricate at the base, with a narrow smooth neck crowned by the calyx-lobes.—*Goniocarpus nodulosus*, Nees in Pl. Preiss. i. 158.

W. Australia. Swan River, *Drummond, 1st Coll., Preiss, n.* 2378. The urceolate calyx distinguishes this from all the other species; the reduction in the number of stamens may not be constant.

25. **H. trichostachya,** *Benth.* A small, rather rigid, erect species, probably annual, branched at the base, not 6 in. high including the panicle,

sprinkled with a few short appressed hairs. Stem-leaves rather crowded at the base of the branches, opposite, linear-cuneate or oblong, entire or nearly so, mostly about ½ in. long, narrowed into a short petiole, the floral ones all reduced to minute alternate scale-like bracts. Racemes filiform, forming much branched leafless terminal panicles more slender than in any other species. Flowers very small, distant, nearly sessile, pendulous. Calyx-lobes broad but scarcely cordate. Petals 4, about ½ line long, glabrous, hood-shaped. Stamens 6 in the flowers examined, but perhaps sometimes 8. Styles and ovules 4. Fruit small, 8-ribbed, sometimes 4-angled by the prominence of 4 of the ribs, and quite glabrous and smooth, sometimes hirsute and nearly globular.

N. Australia, *Drummond, n.* 205.

26. **H. lanceolata,** *R. Brown, Herb.* A diffuse glabrous annual, with the habit nearly of the smaller forms of *H. hexandra*, the slender ascending branches rarely above 3 or 4 in. high. Stem-leaves opposite, oblong or lanceolate, from under ½ in. to nearly ¾ in. long, quite entire, narrowed at the base, rather thick, the floral ones alternate and much reduced, but all longer than the flowers, which, however, I have not seen perfect. Fruiting racemes slender, terminal, leafy, the fruits as small as in *H. micrantha*, shortly pedicellate, 2 or 3 together in each axil, reflexed, very small, ovoid, 4-angled but otherwise smooth, crowned by the 4 calyx-lobes.

W. Australia. Marshes, King George's Sound, *R. Brown* (*Herb. R. Br.*).

27. **H. micrantha,** *R. Brown in Flind. Voy. App.* 550. Glabrous or slightly scabrous, much branched and diffuse or slender and erect, usually under 6 in. high, but when very luxuriant twice that height, the greater part occupied by the panicle. Stem-leaves opposite, orbicular-cordate or very broadly ovate, serrate-crenate, 3 to 4 lines or rarely ½ in. diameter, the floral ones reduced to minute alternate bracts. Racemes filiform, in a loose terminal panicle. Flowers minute, solitary. Calyx-lobes short, not cordate. Petals 4, about ½ line long. Styles and ovules 4. Fruit small, nearly globular prominently 8-nerved, otherwise smooth and shining.—Hook. f. Fl. Tasm. i. 121; *H. tenella*, Brongn. in Duperr. Voy. t. 68 B; *Goniocarpus micranthus*, Thunb.; DC. Prod. iii. 66; *G. microcarpus*, Thib.; DC. Prod. iii. 66 (from the diagnosis).

N. S. Wales. Port Jackson, *R. Brown* and others; New England, *C. Stuart*; Clarence and Hastings rivers, *Beckler.*

Victoria. Dandenong and Haidinger ranges, Ovens river, Mount Buller, Mount Useful, *F. Mueller*; Portland, *Allitt.*

Tasmania. Port Dalrymple, *R. Brown*; abundant in moist sandy soil in several parts of the colony, *J. D. Hooker.*

S. Australia. Mount Lofty range, *F. Mueller.*

Also in New Zealand, Khasia, and Japan.

28. **H. stricta,** *R. Br. Herb.* Erect, rigid but slender, rather tall, nearly glabrous in appearance but very scabrous. Stem-leaves opposite, linear or linear-lanceolate, acute, entire or with small distant teeth, the larger ones 1 to 2 in. long, the floral ones alternate, mostly reduced to small bracts. Flowers clustered within each bract, shortly pedicellate, forming slender terminal racemes leafy at the base. Calyx-lobes small, acute. Petals 4, about

1 line long. Stamens 8. Styles and ovules (according to R. Brown's notes) 4. Fruit small, but not seen ripe.

Queensland. Broad Sound, *R. Brown* (*Herb. R. Br.*) The inflorescence is that of *H. serra*, but the foliage is different and the pistil 4-merous.

29. **H. heterophylla,** *Brongn. in Duperr. Voy. t.* 68 A. A rather slender species, usually small, but sometimes 1 ft. high, glabrous or minutely scabrous, with erect or ascending stems. Stem-leaves all or mostly opposite, deeply divided above the middle into 3, 5 or 7 linear or rarely lanceolate acute lobes almost digitate; a few of the upper ones often alternate linear entire or nearly so, the floral ones smaller, the uppermost reduced to small bracts. Flowers like those of *H. tetragyna*, small, solitary, or 2 together within each bract, in slender terminal leafy racemes. Calyx scabrous, with short lobes. Petals 4, in the males oblong, boat-shaped, about 1 line long, present also in some of the females, but shorter and hood-shaped. Styles and ovules 4. Fruit small, globular or nearly so, tubercular-rugose.

Queensland. Keppel Bay, *R. Brown*; Burdekin river, *F. Mueller*; Moreton Bay, *C. Stuart*; Warwick, *Beckler.*

N. S. Wales. Port Jackson, *R. Brown* and others; New England, *C. Stuart*; Arne river, *Beckler*, also in *Leichhardt's* collection.

Victoria. Portland, *Allitt*; Snowy River, *F. Mueller* (rather doubtful).

S. Australia. Barossa range, *Behr.*

Var. (?) *filiformis.* More slender, with narrower leaf-lobes. – *H. filiformis*, A. Gray, Bot. Amer. Expl. Exped. i. 628.—Hunter's River, *American Exploring Expedition.* I have not seen these specimens, but some of our N. S. Wales ones agree well with the description. Generally speaking, this species is readily distinguished from *H. ceratophylla* by its slender habit, opposite stem-leaves only divided above the middle, and by the small flowers of *H. tetragyna*; but some specimens, mostly in an imperfect state, appear almost to connect the two.

30. **H. pinnatifida,** *A. Gray, Bot. Amer. Expl. Exped.* i. 627. Tall and glabrous or minutely scabrous on the angles of the stem and margins of the leaves. Stem-leaves opposite, deeply divided from nearly the base into linear lobes not broader than the rhachis, the larger leaves $1\frac{1}{4}$ to 2 in. long, the lobes $\frac{1}{4}$ to $\frac{1}{2}$ in. or even nearly 1 in. long: the floral leaves alternate, linear, the upper ones entire and small. Flowers of *H. ceratophylla*, but rather larger, solitary within each bract or floral leaf, forming terminal leafy racemes. Fruit only seen young.

N. S. Wales. Hunter's River, *American Exploring Expedition*; near Cassilis, *C. Moore*, a single specimen in *Herb. F. Mueller*, agreeing well with the description given by A. Gray, whose specimens I have not seen.

31. **H. acanthocarpa,** *Brongn. in Duperr. Voy. t.* 70. Stems decumbent or erect, 1 to 2 ft. long, scabrous-hirsute as well as the leaves. Stem-leaves opposite, sessile or shortly petiolate, oblong or broadly lanceolate, mostly $\frac{3}{4}$ to $1\frac{1}{2}$ in. long, regularly and acutely serrate as in *H. alata* and *H. serra*, rounded at the base. Flowers very small, alternate along the filiform branches of a long loose terminal panicle, with small leaves at the base of the primary branches, the others reduced to small bracts. Calyx-lobes short. Petals 4, glabrous, rather above $\frac{1}{2}$ line long. Stamens 8. Styles and ovules 4. Fruit nearly 1 line long, narrow-oblong, muricate with 2 or 3 transverse

rows of tubercles, crowned by the small smooth calyx-limb.—*H. leptotheca*, F. Muell. Fragm. iii. 32.

N. Australia. Victoria river, *F. Mueller*; Port Essington, *Armstrong*; islands of the Gulf of Carpentaria, *R. Brown*; Sims Island, *A. Cunningham*, Goald Island, *M'Gillivray*.

32. **H. tetragyna,** *Hook. f. Fl. Nov. Zel.* i. 63, *and Fl. Tasm.* i. 120. Rootstock apparently perennial, more or less scabrous with appressed hairs; stems branching, diffuse decumbent or ascending, sometimes all under 6 in., rarely above 1 ft. long. Stem-leaves all or mostly opposite, linear-lanceolate, elliptical or the lower ones ovate, rarely above ½ in. long, except in tall luxuriant forms, not cordate, and usually narrowed at the base; the floral ones all or almost all alternate and mostly reduced to small bracts shorter than the flowers. Flowers small, nearly sessile, solitary within each bract, in slender usually one-sided terminal racemes, often branching into narrow panicles. Calyx-tube not ½ line long. Petals in the males rather above 1 line long, smaller or none in the females. Stamens 8. Styles and ovules 4. Fruits nearly globular, 4-angled, transversely rugose, attaining about ¾ line diameter. —F. Muell. Fragm. iv. 26; *Goniocarpus tetragynus*, Labill. Pl. Nov. Holl. i. 39, t. 53; DC. Prod. iii. 66; *Haloragis gonocarpus*, Spreng. Syst. ii. 261; *Goniocarpus tenellus*, DC. Prod. iii. 66.

Queensland. Moreton Bay, *C. Stuart*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; New England, *C. Stuart*; Head of the Gwydir, *Leichhardt*: Hastings and Macleay rivers, *Beckler*.

Victoria. Australia Felix, *F. Mueller*; Creswick, *J. S. Whan*; probably over the whole colony.

Tasmania. Common in dry stony places, fields, etc., *J. D. Hooker*.

S. Australia. Barossa and Mount Lofty ranges, *F. Mueller*.

Var. *micrantha*. Leaves longer than in the southern specimens, and mostly lanceolate; racemes more slender and more branching, flowers nearly as small as in *H. micrantha*. To this belong most of the northern specimens, and *Goniocarpus scaber*, Kœn. (*Haloragis scabra*, Benth. Fl. Hongk. 139), from Khasia, the Indian Archipelago, and China, appears not to be specifically distinct.

Var. *hispida*. More hirsute. Flowers small. Leaves rather broad, but all narrowed at the base.—Mount Mitchell, Clarence river, *Beckler*; head of the Gwydir, *Leichhardt*.

The southern form of the species is also in New Zealand.

33 **H. teucrioides,** *A. Gray, Bot. Amer. Expl. Exped.* i. 625. A perennial, usually much coarser than *H. tetragyna*, scabrous-pubescent or hispid with decumbent or erect stems often 1 to 2 ft. long. Stem-leaves opposite, ovate or orbicular, deeply and acutely serrate, rounded or cordate at the base, the larger ones ¾ in., but mostly not above ½ in. long and broad. Flowers rather larger than in *H. tetragyna*, solitary under each bract, the lower ones often opposite, the upper ones alternate, forming much shorter racemes and a much more leafy panicle than *H. tetragyna*, all the bracts usually exceeding the flowers. Fruit of *H. tetragyna*, but the angles usually tuberculate and smoother between them.—*Goniocarpus teucrioides*, DC. Prod. iii. 66; *H. elata*, Hook. f. in Hook. Lond. Journ. vi. 475, not of A. Cunn.; *H. Gunnii*, Hook. f. Fl. Tasm. i. 120.

N. S. Wales. Port Jackson to the Blue Mountains, *Sieber*, n. 514, *Leichhardt*, and others.

Victoria. Australia Felix, without the precise station, *F. Mueller.*

Tasmania. Port Dalrymple, *R. Brown*; abundant in wet shady places, *J. D. Hooker.*

S. Australia. S. coast, *R. Brown*, with smaller leaves.

W. Australia. Princess Royal Harbour, *R. Brown*, *Preiss*, *n.* 2087, the specimens in both cases imperfect and scarcely in flower, and therefore doubtful. Preiss's are referred by Nees in Pl. Preiss. i. 158, to *Goniocarpus tetragynus*, together with Preiss's specimens n. 2390, which are also bad, but do not appear to be of the same species. The whole species is united by F. Mueller with *H. tetragynus.*

34. **H. scordioides,** *Benth.* Rather a coarse species, probably tall; branches loose, hirsute with spreading hairs. Leaves opposite, the lower ones petiolate, oblong, deeply and sharply serrate, mostly ¾ to above 1 in. long, glabrous or nearly so; the floral ones much smaller and ovate, but all opposite in the specimens seen. Flowers nearly sessile and solitary in the axils of the floral leaves. Calyx-tube globular, slightly 4-angled; lobes ovate-lanceolate. Petals 4, attaining nearly 1½ lines, oblong, ciliate on the keel. Stamens 8. Styles and ovules 4. Fruit not seen.

W. Australia. Thomas river, *Maxwell.*

35. **H. depressa,** *Walp. Rep.* ii. 99. A small species, diffuse or prostrate, very much branched, glabrous in appearance, but scabrous with minute asperities. Leaves all opposite, ovate, often cordate, usually broad, under ½ in. and often not ¼ in. long, the upper floral ones gradually smaller, but all opposite or very rarely the upper ones of side-branches alternate. Flowers almost sessile, forming short interrupted terminal racemes, and similar to those of the smaller forms of *H. tetragyna*, except that the calyx-tube and fruit are smooth and shining, with 4 or 8 prominent nerves, not tuberculate.—Hook. f. Fl. Tasm. i. 120.

Victoria. Mount Useful and Mount Cobberas, at an elevation of 4500 to 5000 ft., *F. Mueller.*

Tasmania. Port Dalrymple, Table mountain, and Cataract river, *R. Brown*; abundant in alpine and subalpine situations, *J. D. Hooker.*

Also in New Zealand.

There are two forms of this species: 1. *serpyllifolia.* Leaves mostly under 3 lines long and rather narrow.—*Goniocarpus serpyllifolius* and *G. vernicosus*, Hook. f. in Hook. Ic. Pl. t. 290 and 311, *H. serpyllifolia* and *H. vernicosa*, Walp. Rep. ii. 99; and 2. *montana.* Leaves broader, often cordate, 3 to 5 lines long. *H. montana*, Hook. f. in Hook. Lond. Journ. vi. 475, united with *H. depressa* in Fl. Tasm. i. 120.

36. **H. salsoloides,** *Benth.* Erect, often much branched, ½ to 1 ft. high, nearly glabrous or scabrous with minute hairs, branches terete or nearly so, the short flowering summits almost always nodding. Leaves all opposite, narrow-linear, almost terete, rarely above ½ in. long, quite entire or obscurely and minutely toothed. Flowers opposite and solitary in the upper axils, rather larger than in *H. tetragyna.* Calyx-lobes short, acute. Petals 4, about 1 line long. Stamens 8, usually persistent long after the fall of the petals, the filaments exceeding the calyx-lobes. Styles and ovules 4. Fruit not seen.—*Goniocarpus salsoloides*, Reichb. in Sieb. Pl. Exs., and in Steud. Nom. Bot. ed. 2.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 249, and others.

3. MEIONECTES, R. Br.

Calyx-tube or ovary somewhat compressed, lobes 2. Petals 2, induplicate and boat-shaped. Stamens 4; filaments short. Ovary 2-celled with 1 pendulous ovule in each cell; styles 2. Fruit small, 2-celled.—Diffuse herb with alternate once or twice pinnatifid leaves, and the inflorescence of *Haloragis*.

The genus is limited to a single species endemic in Australia, only differing from *Haloragis* in the binary not ternary or quaternary numbers of the parts of the flower.

1. **M. Brownii,** *Hook. f. in Hook. Ic. Pl. t.* 306, *and Fl. Tasm.* i. 123. A glabrous slender herb, creeping and rooting at the base, the branches ascending sometimes to the height of 6 in., or when luxuriant to 1 ft. Leaves alternate, deeply pinnatifid with linear lobes not broader than the common rhachis, the larger ones often again lobed, the upper floral leaves smaller and more entire. Flowers in clusters of 2 or more in the upper axils, the upper ones forming a more or less leafy raceme. Calyx-lobes short. Petals glabrous, about 1 line long. Fruit ovate, slightly compressed, 1½ to 2 lines long, including the erect connivent persistent calyx-lobes, more or less rugose and usually with the 2 ribs prominent on the edge.—*M. Preissii*, Nees in Pl. Preiss. i. 224.

Victoria. Wet pastures and swamps in various parts of the colony, *F. Mueller* and others.

Tasmania. Pools of fresh water at Circular Head and other places in the northern parts of the island, *J. D. Hooker.*

S. Australia. Valleys of Mount Lofty ranges where inundated in time of rain, *F. Mueller.*

W. Australia. Swamps, King George's Sound and to the eastward, *R. Brown*; Swan River, *Preiss, n.* 2385; Flinders Bay, *Collie.* These western specimens are generally coarser and rather larger in all their parts than most of the Tasmanian and Victorian ones, but some of F. Mueller's are almost if not quite as large as Preiss's, and some of Brown's are quite as slender as those from Tasmania.

4. MYRIOPHYLLUM, Linn.

Flowers mostly unisexual. Male fl.: Calyx-tube very short or scarcely any, lobes short, petal-like or scarcely any. Petals 4, concave, imbricate or half induplicate. Stamens 4, 6 or 8. Styles minute and rudimentary, without any ovules. Female fl.: Calyx-tube ovoid, lobes minute or none. Petals usually none. Ovary 2- or 4-celled, with one pendulous ovule in each cell; styles as many as ovules, usually short and stigmatic from the base, often plumose. Fruit small, usually furrowed between the 2 or 4 carpels, which at length separate into as many small 1-seeded nuts. Aquatic herbs, the lower leaves when submerged often pinnately divided into capillary lobes; those of the flowering extremities usually less divided or entire. Flowers very small, in the axils of the exserted flowering leaves or rarely also or entirely in the submerged axils, the upper ones usually males, the lower ones females, sometimes diœcious, but perhaps not constantly so in any species.

The genus is found in fresh waters nearly in every part of the globe. Of the 12 Australian species, 3 are also in New Zealand, and one of these extends to extratropical S. America, the remaining 9 are endemic.

Leaves all in whorls of 3 to 8, the submerged ones pinnatisect with capillary segments, the emerged floral ones entire toothed or shortly lobed.
Leaves usually more than 4 in the whorl, the emerged ones narrow-linear. Calyx-lobes conspicuous . . . . 1. *M. variæfolium.*
Leaves usually 4, the emerged ones oblong or broadly lanceolate, sessile. Calyx-lobes minute.
Emerged leaves entire or slightly toothed. Plant rather large 2. *M. elatinoides.*
Emerged leaves pinnatifid. Plant small or slender . . . . 3. *M. verrucosum.*
Leaves usually 3, the emerged ones linear-lanceolate, above $\frac{1}{2}$ in. long, serrulate, narrowed into a petiole . . . . 4. *M. latifolium.*
Leaves all opposite or rarely in whorls of 3, pinnatisect with capillary lobes. Male flowers 1 or 2 together on a distinct peduncle, each enclosed in a hood-shaped bract . . . . 5. *M. Muelleri.*
Leaves all opposite, entire. Small plants creeping in mud.
Leaves oblong. Carpels smooth . . . . 6. *M. amphibium.*
Leaves linear. Carpels tuberculate or muricate . . . . 7. *M. pedunculatum.*
Leaves all alternate.
Submerged leaves pinnatisect with capillary segments. Stamens 8.
Emerged floral leaves entire, linear.
Carpels 2, smooth . . . . 8. *M. dicoccum.*
Carpels 4, tuberculate . . . . 9. *M. trachycarpum.*
Leaves all pinnatisect with fine segments. Carpels 4 . . . 10. *M. gracile.*
Leaves all linear and entire; or rarely with a few lobes in *M. Drummondii.* Minute filiform plants.
Stamens 8, with oblong anthers longer than the filaments . . 11. *M. filiforme.*
Stamens 4 or fewer, with ovate anthers much shorter than the filaments.
Leaves all entire. Carpels smooth . . . . 12. *M. integrifolium.*
Leaves occasionally with a few lobes. Carpels muricate . 13. *M. Drummondii.*

1. **M. variæfolium,** *Hook. f. in Hook. Ic. Pl. t.* 289, *and Fl. Tasm.* i. 122. Usually a rather large species, the erect flowering summits assuming almost the aspect of *Hippuris.* Leaves in whorls of from 4 to 8, usually 5 or 6, the lower submerged ones divided into capillary lobes, the emerged floral ones narrow-linear, all entire or the lower ones toothed, $\frac{1}{4}$ to above $\frac{1}{2}$ in. long, Male fl.: Calyx-lobes conspicuous and sometimes above $\frac{1}{2}$ line long. Petals $1\frac{1}{4}$ to $1\frac{1}{2}$ lines. Stamens 8. Female fl. small without apparent calyx-teeth or petals. Carpels 4, small, tuberculate or almost echinate, or rarely quite smooth.

N. S. Wales. Port Jackson, *R. Brown, Woolls*; Lachlan river, *A. Cunningham*; Glendon and Newcastle, *Leichhardt*; Hastings river, *Beckler.*

Victoria. Swamps, Portland, *F. Mueller*; Glenelg and Wendu rivers, *Robertson.*

Tasmania. Abundant in fresh waters throughout the colony, *J. D. Hooker.*

S. Australia. Torrens river, *F. Mueller.*

W. Australia. Swan River to King George's Sound, *Drummond*, 1*st Coll.*, 4*th Coll. n.* 75, *Harvey, Oldfield.*

Also in New Zealand.

2. **M. elatinoides,** *Gaud.*; *DC. Prod.* iii. 68. A rather large species. Leaves in whorls of 4 or rarely 5 or 6, the lower submerged ones divided into capillary lobes, the emerged floral ones broadly lanceolate, obtuse entire or scarcely toothed, quite sessile, $\frac{1}{4}$ to nearly $\frac{1}{2}$ in. long. Male fl.: Calyx-teeth scarcely perceptible. Petals about 1 line long. Stamens 8. Female

fl. very small, without apparent calyx-teeth or petals. Carpels 4, small, smooth or slightly tuberculate.—Hook. f. Fl. Tasm. i. 121.

Victoria. Australia Felix, *F. Mueller*; Wendu river, *Robertson.*
Tasmania. Fresh and brackish waters, Georgetown and in the Derwent, *J. D. Hooker.*
S. Australia. Murray river, Lake Victoria, pools on Mount Barker, *F. Mueller.*
Also in New Zealand and in extratropical S. America.

3. **M. verrucosum,** *Lindl. in Mitch. Trop. Austr.* 384. Usually much smaller and more slender than the last two species. Leaves mostly in whorls of 4, the lower submerged ones divided into capillary lobes, the emerged floral ones sessile, oblong or lanceolate, all pinnatifid with short obtuse lobes, more or less glaucous, mostly about 2 lines long. Flowers rather smaller than in *M. elatinoides.* Calyx-lobes very small, but perceptible in both sexes, very deciduous in the females. Petals in the males under 1 line long. Stamens 8. Females without petals. Styles 4, very short. Carpels 4, rarely above ½ line long, obtuse on the back, more or less tuberculate.

N. Australia. Victoria river, *Bynoe*; Albert river, Gulf of Carpentaria, *F. Mueller.*
Queensland. Balonne river at St. George's Bridge, *Mitchell*; Moreton Bay, *C. Stuart.*
N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; waterholes in the Severn, *Leichhardt*; in the interior towards the Barrier Range, *Victorian Expedition.*
Victoria. Waters on the Grampians, muddy places by the Barwan, etc., *F Mueller.*
S. Australia. S. coast, *R. Brown.*
W. Australia, *Drummond, 3rd Coll.?, n.* 186, *4th Coll. n.* 80; pools, Murchison river, *Oldfield.*

The species has some affinity to the northern *M. verticillatum* as well as to the Asiatic *M. indicum,* but besides the differences in the floral leaves, the fruit is much smaller than in the former, much less furrowed between the carpels than in the latter. As in the allied species, flowers are occasionally found also in the axils of the submerged leaves.

4. **M. latifolium,** *F. Muell. Fragm.* ii. 87. A large species. Leaves in whorls of 3, the lower submerged ones divided into capillary lobes, but in the specimens seen always few, those of the tall erect emerged summits lanceolate, serrulate, ¾ to 1 in. long, narrowed into a petiole. Flowers rather large, all sessile. Male fl.: Calyx-lobes small. Petals 1½ lines long. Stamens 8. Female fl.: Calyx-teeth inconspicuous. Carpels 4, styles short, very plumose. Fruit not seen.

N. S. Wales. Port Jackson, *R. Brown*; Clarence river, *Beckler.*

5. **M. Muelleri,** *Sond. Herb.* The plant appears to be entirely submerged. Leaves opposite or rarely in whorls of three, all pinnately divided into capillary lobes, those of the upper floral leaves however not quite so fine. Flowers monœcious in the upper axils, the males rather large, solitary or 2 together, on a peduncle of about 2 or 3 lines, each one enclosed before expanding in an almost petal-like hood-shaped bract, the bracteoles remaining small. Calyx-lobes very small. Petals above 1 line long. Stamens 8. Rudimentary styles conspicuous. Female fl. sessile. Calyx-teeth almost imperceptible. Petals none. Styles 4, erect, usually as long as the ovary, papillose from the base, but not plumose. Fruit-carpels about ½ line long, smooth.

Victoria. Watery marshes, Melbourne, *Adamson.*
S. Australia. Near Holdfast Bay, *F. Mueller.*
W. Australia. King George's Sound or to the eastward, *Baxter.*

The glands observable in the axils of the submerged leaves of many *Myriophyllums* are particularly conspicuous in this species.

6. **M. amphibium,** *Labill. Pl. Nov. Holl.* ii. 70. *t.* 220. A small plant, creeping in the mud, without capillary-lobed leaves. Leaves opposite, oblong or sometimes almost obovate, entire, mostly 3 to 4 lines long. Flowers solitary in the upper axils. Males: Calyx-lobes $\frac{1}{3}$ to $\frac{1}{2}$ line long. Petals about 1 line long, narrower than in the other species. Stamens 8. Female flowers very small, the minute calyx-teeth scarcely perceptible. Styles often rather long, plumose at the extremity. Fruit about $\frac{1}{2}$ line long; carpels ovoid, smooth or scarcely punctate.—Hook. f. Fl. Tasm. i. 122.

Tasmania. Wet places about Recherche Bay, *J. D. Hooker.*

7. **M. pedunculatum,** *Hook. f. in Hook. Lond. Journ.* vi. 474, *and Fl. Tasm.* i. 122, *t.* 23 B. Very closely allied to *M. amphibium*, and perhaps a variety, differing in the leaves from narrow-linear to linear-oblong, rarely 3 lines long, the flowers rather smaller, the males sometimes, but not always, shortly pedunculate, the styles in the females very short, the carpels rather smaller, covered with prominent tubercles.

Victoria. Boggy pastures, Australian Alps, *F. Mueller.*

Tasmania. Kings Island, *R. Brown*; shallow parts and inundated water-banks, ascending to 4000 ft., *J. D. Hooker.*

W. Australia, *Drummond, n.* 204.

Also in New Zealand.

8. **M. dicoccum,** *F. Muell. in Trans. Phil. Inst. Vict.* iii. 41. A rather slender species. Leaves all alternate, the submerged ones pinnatisect with capillary segments, the emerged floral ones linear, entire, $\frac{1}{4}$ to $\frac{1}{2}$ in. long, narrowed at the base. Upper flowers male or perhaps hermaphrodite, but not seen perfect. Calyx-teeth inconspicuous. Petals about $\frac{3}{4}$ line long. (Stamens 4?) Female flowers very small, with a 2-celled ovary and 2 short plumose styles. Carpels 2, rather above $\frac{1}{3}$ line long, very smooth.

N. Australia. Robinson river, *F. Mueller.*

9. **M. trachycarpum,** *F. Muell. Fragm.* ii. 87. A slender species with the habit of *M. dicoccum.* Leaves all alternate, the submerged ones pinnatisect with capillary segments, the emerged floral ones linear, entire or scarcely toothed, 2 to 3 lines long, narrowed at the base. Flowers small, solitary, the upper ones male, but not seen very perfect. Calyx-teeth very small. Petals under 1 line long. Stamens apparently 8. Female flowers very small. Calyx-teeth quite inconspicuous. Carpels 4 or rarely 3, about $\frac{1}{2}$ line long, conspicuously verrucose.

N. Australia. Gulf of Carpentaria, opposite Groote Island, *R. Brown*; ponds near Macadam Range, *F. Mueller* (*Herb. R. Br. and F. Muell.*).

10. **M. gracile,** *Benth.* A small slender almost filiform species, nearly allied to *M. trachycarpum*, and perhaps a variety. Leaves alternate, all, even the uppermost floral ones, deeply pinnatifid or pinnatisect, with few (3, 5 or 7), narrow, rather short lobes. Flowers and fruit of *M. trachycarpum.* Stamens in the males 8. Carpels 4, small, tuberculate.

Queensland, *Bowman*; Moreton Bay, *F. Mueller.*

11. **M. filiforme,** *Benth.* Stems filiform, simple or scarcely branched,

about 2 in. or rarely 3 in. long. Leaves all alternate, linear-subulate, entire, 1 to 2 lines long. Flowers minute, mostly 2 or 3 together, the upper ones male. Petals about ½ line long. Stamens 8, with oblong anthers and short filaments as in all the preceding species. Females very minute. Styles scarcely any. Carpels 4, about ¼ line long, muricate.

N. Australia. Gulf of Carpentaria, mainland opposite Groote Island, *R. Brown* (*Herb. R. Br.*). With some resemblance to *M. Drummondii*, this species is much more slender, and has the male flowers quite different.

12. **M. integrifolium,** *Hook. f. Fl. Tasm.* i. 123, *t.* 23 A. A minute, slender, simple or branched plant, rarely exceeding 1 in. in height. Leaves all alternate or here and there irregularly opposite, linear-subulate, entire, 1 to 2 lines long. Flowers minute, sessile in the upper axils, the uppermost 2 usually males. Calyx-teeth inconspicuous. Petals 4, scarcely ¼ line long. Stamens 4, often persistent after the petals have fallen, and differing from all others of the genus, except *M. Drummondii*, in their filiform filaments, much longer than the small ovoid anthers. Females without calyx-teeth or petals. Styles scarcely prominent, with papillose stigmas. Carpels 4, when ripe ¼ to nearly ½ line long, ovoid, separated by deep furrows, smooth or minutely papillose.—*Pelonastes integrifolia*, Hook. f. in Hook. Lond. Journ. vi. 475.

Victoria. Wet places on the Murray, Darebin Creek, Emu flats, etc., *F. Mueller.*
Tasmania. Wet places, lagoons, etc., frequent, *J. D. Hooker.*
S. Australia. Murray river, Plenty Creek, etc., *F. Mueller.*
W. Australia, *Drummond, n.* 686.

13. **M. Drummondii,** *Benth.* A little plant of about 1 in. in height, closely resembling *M. integrifolium.* Leaves alternate, narrow-linear, entire or here and there with a few linear lobes. Flowers entirely of *M. integrifolium*, the uppermost 2 males, with 4 stamens, long filaments, and small anthers. Carpels 4, of the same size as in that species, but prominently tuberculate or muricate.—*Pelonastes tuberculata*, Hook. f. in Hook. Lond. Journ. vi. 474.

W. Australia, *Drummond, n.* 18; Geographe Bay, *Oldfield.* Perhaps a variety only of *M. integrifolium.*

B. Anomalous Genera.

5. GUNNERA, Linn.

(Milligania, *Hook. f.*)

Flowers mostly unisexual. Male fl.: Calyx of 2 or 3 minute teeth, often scarcely perceptible, without any tube. Petals none in the Australian species. Stamens 2, with very short filaments. Female fl.: Calyx-tube terete or angular; lobes 2 or 3, very small. Petals none. Ovary 1-celled, with 1 pendulous ovule; styles 2, linear, stigmatic from the base or rarely 4 styles, more or less connate in pairs. Fruit a small nut-like drupe, the seed often adhering to the pericarp. Embryo very minute.—Stemless herbs, with a tufted creeping rhizome. Leaves radical, usually broad, in some S. American species attaining an immense size. Flowers small, in clusters or in exotic species in spikes or racemes, crowded along the rhachis of a radical scape.

The genus is spread over the cooler regions of the southern hemisphere, extending northward along the Andes to the Gulf of Mexico. The only Australian species is endemic, but is nearly allied to some others from New Zealand and Antarctic America.

1. **G. cordifolia,** *Hook. f. Fl. Tasm.* i. 125. A small succulent fleshy herb, with a tufted rootstock, emitting creeping stolons, loosely hairy on the scapes and the edges and ribs of the leaves. Leaves radical, broadly ovate or orbicular, ½ to 1 in. diameter, crenate and sometimes obscurely lobed, on petioles nearly as long as the lamina. Scapes usually unisexual, the males attaining 2 or 3 in., bearing in their upper half clusters of flowers, which appear to consist each of 2 thick ovoid anthers, about 1 line long, surrounded by 4 or 5 linear or spathulate, slightly jagged bracts, the calyx-teeth so minute as to be difficult to find. Occasionally there are a few female flowers below the rhachis, but usually the females are upon separate scapes, nearly sessile, in a short dense almost globular head. Calyx-tube narrow, about ½ line long, the lobes short. No petals or stamens. Styles almost filiform. Drupes ovoid, slightly compressed, about 1 line long, with 4 ribs of which 2 more prominent. —*Milligania cordifolia,* Hook. f. in Hook. Ic. Pl. t. 299.

Tasmania. Abundant about springs and in marshes in alpine situations, *J. D. Hooker.*

6. CERATOPHYLLUM, Linn.

Flowers unisexual, without any perianth, the males consisting of several (12 to 20) almost sessile anthers, the females of a 1-celled ovary, with 1 pendulous ovule and a simple filiform style. Fruit an oval nut, tipped by the persistent style and often bearing 2 or 4 reflexed prickles or surrounded by a toothed or crest-like wing.—Aquatic floating herbs. Leaves whorled, divided into linear dichotomous segments. Flowers small, axillary, each one surrounded by a whorl of minute bracts.

The genus is found in fresh waters in most parts of the world, and like *Callitriche,* is considered by some as containing but one species, by others divided into several, characterized by the excrescences on the ripe fruit. The Australian form is one frequent both in Europe and E. India.

1. **C. demersum,** *Linn.; DC. Prod.* iii. 73. A glabrous perennial, floating like the submerged species of *Myriophyllum,* and the leaves whorled in the same manner, but dichotomously, not pinnately, divided into linear segments either fine and subulate or rather broader and denticulate. Flowers small, sessile in the axils. Anthers of the males oblong, mucronate. Fruit in the Australian specimens ovoid, slightly compressed, 2 to 3 lines long, more or less covered with minute tubercles, the margin not winged, but bearing below the middle 2 to 4 reflexed prickles, very variable in length.—*C. submersum,* Linn.; DC. l. c.

Queensland. Suttor and Burdekin rivers, *F. Mueller.*

S. Australia. Murray river, *F. Mueller.*

The very few fruits I have seen correspond to a form not uncommon in the northern hemisphere, and figured in Wight, Ic. t. 1948, f. 3, as *C. tuberculatum,* Cham.

7. CALLITRICHE, Linn.

Flowers unisexual, without any perianth, the males consisting of a single stamen, with a conspicuous filament and small 4-celled anther, the females of a sessile or stalked 4-celled ovary, with 2 filiform erect or recurved styles, stigmatic from the base; ovules 1 in each cell, laterally suspended from near the summit of the cell. Fruit small, more or less flattened, notched at the top, 4-celled and 4-lobed, that is surrounded by a double edge, the edges obtuse acute or winged, and consisting of 2 2-celled disk-shaped carpels, united by their inner faces. Embryo in the axis of an oily albumen.—Slender aquatic herbs. Leaves opposite, entire. Flowers axillary, solitary or a male and female from the same axis, each one between 2 small bracteoles, which are sometimes wanting.

The genus is found in almost every part of the globe, and, according to some botanists, consists but of a single species, others divide it into two, the Australian one belonging in that case to the one which has the most universal geographical range. Those who variously extend the genus to from 13 to 20 species, describe the commonest Australian form as endemic.

1. **C. verna,** *Linn.; DC. Prod.* iii. 70. A glabrous slender perennial, either floating in water or creeping and rooting in mud, flowering young so as to appear annual, varying in length according to the depth of the water. Leaves either all obovate-orbicular or oblong, 1 to 6 lines long or the lower submerged ones narrow-linear and obtuse or notched at the end, the upper ones obovate and spreading in little tufts on the surface of the water, or all submerged and linear. Flowers minute. Fruit from ½ to 1 line diameter, with obtuse acute or winged edges.—*C. autumnalis*, Linn.; DC. l. c., partly at least.

Queensland. Brisbane river, *F. Mueller*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, and others.

Victoria. Abundant in pools, *Adamson, F. Mueller*, and others.

Tasmania. Port Dalrymple, *R. Brown;* common in still freshwater, margins of rivers, etc., *J. D. Hooker*.

S. Australia. Plenty river, towards Mount Disappointment, *F. Mueller*.

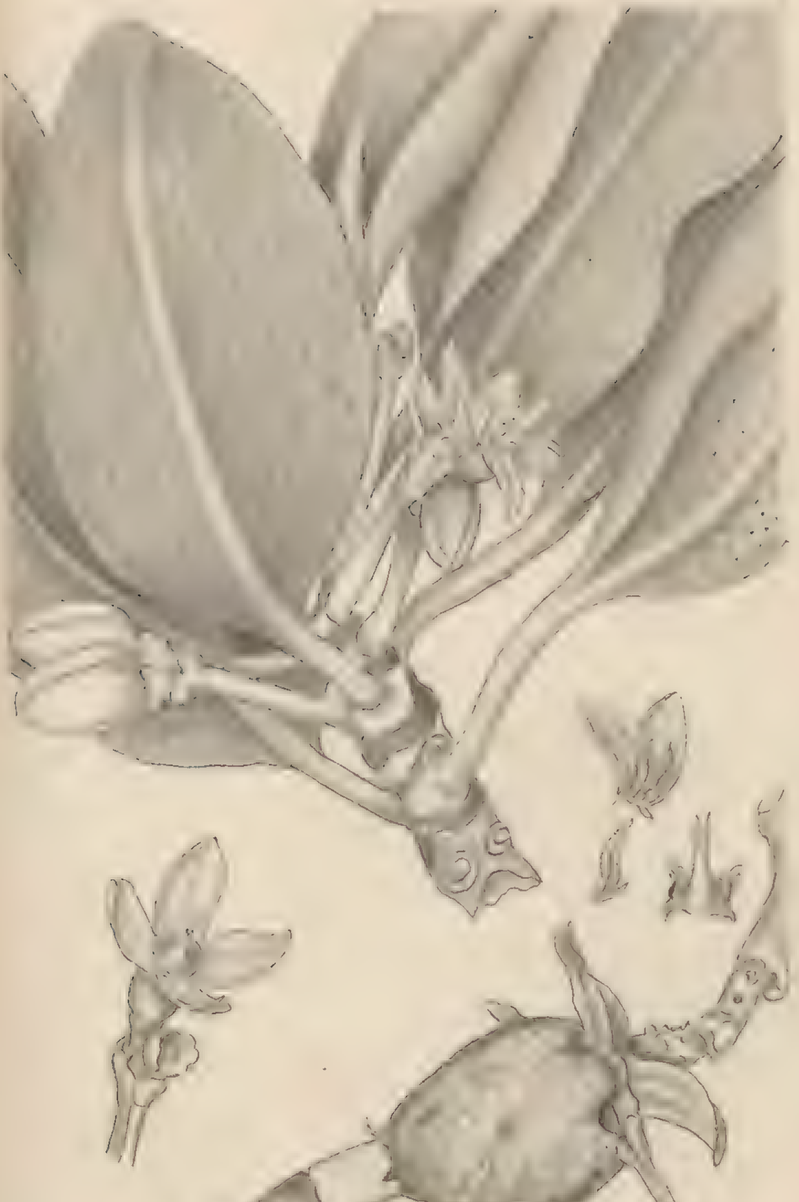
W. Australia, *Drummond, n.* 185, 2*nd Coll. n.* 99 (*or* 66).

The Eastern specimens have generally the wings of the fruit broader than in almost any Northern or tropical specimens, and constitute the *C. macropteryx*, Hegelm. Monogr. Callitr. 59; the Western and some of the Tasmanian specimens cannot be distinguished from some of our European forms; in Brown's Tasmanian ones the fruit lobes are quite obtuse on the edge.

Order XLVI. RHIZOPHOREÆ.

Calyx-tube usually adnate to the ovary, sometimes prolonged above it or rarely quite free; the limb of 4 to about 12 lobes, valvate in the bud. Petals as many as the calyx-lobes, alternate with them, notched cut or jagged or rarely entire, the margins usually induplicate and embracing the anthers. Stamens as many or twice as many as petals or more, inserted with them at the base of the free part or lobes of the calyx; anthers erect or versatile, 2-celled, opening longitudinally. Ovary more or less inferior or rarely quite superior, 2- or more-celled, with 2 or few pendulous ovules in each cell, or rarely 1-celled by the obliteration of the partition; style undivided, with an entire or lobed stigma. Fruit inferior or enclosed in the calyx. Seeds solitary or few, with or without albumen—Trees or shrubs. Leaves opposite, simple, entire or slightly toothed, coriaceous. Stipules often large, very deciduous. Flowers axillary, solitary, clustered or in cymes.

A small Order, almost entirely tropical, and chiefly Asiatic or African, with a few American species. The four Australian genera are all Asiatic, one only extending also to Africa



and America. The Order is divided into two distinct tribes, by some considered as independent families: 1. *Rhizophoreæ proper*, including the following genera: *Rhizophora*, *Ceriops*, and *Bruguiera*, consists of the *Mangroves*, all maritime evergreen trees, the seeds without albumen, and almost always germinating before falling off, the thick radicle enlarging rapidly, and protruding to a great length from the summit of the capsule. 2. *Legnotideæ*, trees or shrubs, not strictly maritime, with usually smaller flowers, and the seeds albuminous, not germinating before they fall. To this tribe belongs the genus *Carallia*.

Calyx-segments longer than the tube. Seeds without albumen, germinating before falling.
- Calyx-segments and petals 4. Stamens 8 to 12. Fruit more than half superior . . . . 1. RHIZOPHORA.
- Calyx-segments and petals 5 or 6. Stamens twice as many. Fruit more than half superior . . . . 2. CERIOPS.
- Calyx-segments and petals 8 to 15. Stamens twice as many. Fruit inferior . . . . 3. BRUGUIERA.

Calyx campanulate, with short teeth. Petals 5 to 8. Stamens twice as many. Fruit inferior. Seeds albuminous, not germinating before falling . . . . 4. CARALLIA.

1. RHIZOPHORA, Linn.

Calyx-tube adnate, segments 4. Petals 4, entire. Stamens 8 to 12; filaments short; anthers long, acuminate, connivent. Ovary half-inferior, 2-celled, with 2 pendulous ovules in each cell; style filiform; stigma 2-toothed. Fruit ovoid or conical, the persistent calyx-segments reflexed from near the base. Seed solitary, without albumen, the rapidly enlarged radicle penetrating through the summit of the fruit.—Trees. Leaves entire. Cymes axillary.

The genus consists of three species only, ranging over tropical seacoasts, two, including the Australian one, in the Old World, the third in America.

1. **R. mucronata,** *Lam.; DC. Prod.* iii. 32. A glabrous evergreen tree, with thick branches. Leaves from broadly ovate to oblong-elliptical, obtuse, with a projecting point (often worn off from the old leaves), 3 to 4 in. long in the Australian specimens, but sometimes longer and narrower, coriaceous, entire. Stipules rather large, oblong, obtuse, very deciduous. Flowers in axillary dichotomous cymes shorter than the leaves, with a pair of short thick concave bracts, connate at the base under each fork and under each flower. Calyx sessile within the bracts, about ½ in. long, the segments separating down to the adnate part. Petals shorter than the calyx, the induplicate margins fringed with long hairs. Anthers 8, nearly sessile, 4 embraced by the petals, 4 between them. Style rather thick, nearly as long as the petals. Fruit ovoid, 1 to 1½ in. long.—Arn. in Ann. Nat. Hist. i. 362; Wight, Ic. t. 238.

N. Australia. Port Essington, *Leichhardt*; shores and islands of the Gulf of Carpentaria, *F. Mueller*.

Queensland. Along the coast and islands within the tropics, *R. Brown*, *F. Mueller*, and others.

The species extends over the tropical shores of Africa and Asia.

2. CERIOPS, Arn.

Calyx-tube adnate; segments 5, rarely 6. Petals as many, emarginate and usually with 1 or more clavate setæ at the top. Stamens twice as many as petals; filaments filiform, longer than the oblong or linear anthers. Ovary half-inferior, 3-celled, with 2 pendulous ovules in each cell; style filiform; stigma undivided. Fruit ovoid or conical, the persistent calyx-segments surrounding it below the middle. Seed solitary, without albumen, the rapidly enlarged funicle penetrating through the summit of the fruit.—Trees or shrubs, with the habit and inflorescence of *Rhizophora*, but usually with smaller leaves and smaller more numerous flowers.

A small genus, limited to the tropical seacoasts of the Old World, the Australian species being the commonest one in Asia. Although the genus appears to be universally adopted, it can scarcely be considered as more than a section of *Rhizophora*.

1. **C. Candolleana,** *Arn. in Ann. Nat. Hist.* i. 364. A tall evergreen glabrous shrub or small tree. Leaves obovate or broadly oblong, 1½ to 2 in. or in luxuriant specimens 3 in. long, coriaceous, entire. Flowers in small dense almost capitate cymes, on short recurved axillary peduncles, with a pair of small short thick concave bracts under each ramification, and rather larger ones under each flower. Calyx sessile within the bracts, about 3 lines long, divided down to the adnate part. Petals shorter than the calyx, emarginate, with 2 to 5 clavate setæ irregularly placed in the notch or on the lobes. Stamens alternately inserted opposite the petals and between them, but the anthers embraced in pairs by the induplicate margins of the petals. Fruit conical, about ½ in. long.—Wight, Ic. t. 240; *Rhizophora Timoriensis*, DC. Prod. iii. 32.

N. Australia. Careening Bay, N.W. coast, *A. Cunningham*; mangrove beach of the Victoria river, *F. Mueller*; Arnhem N. Bay, *R. Brown*; Port Essington, *Armstrong*.

Queensland. Islands of the N.E. coast, *F. Mueller*, and others.

The species extends over the seacoasts of E. India and the Archipelago.

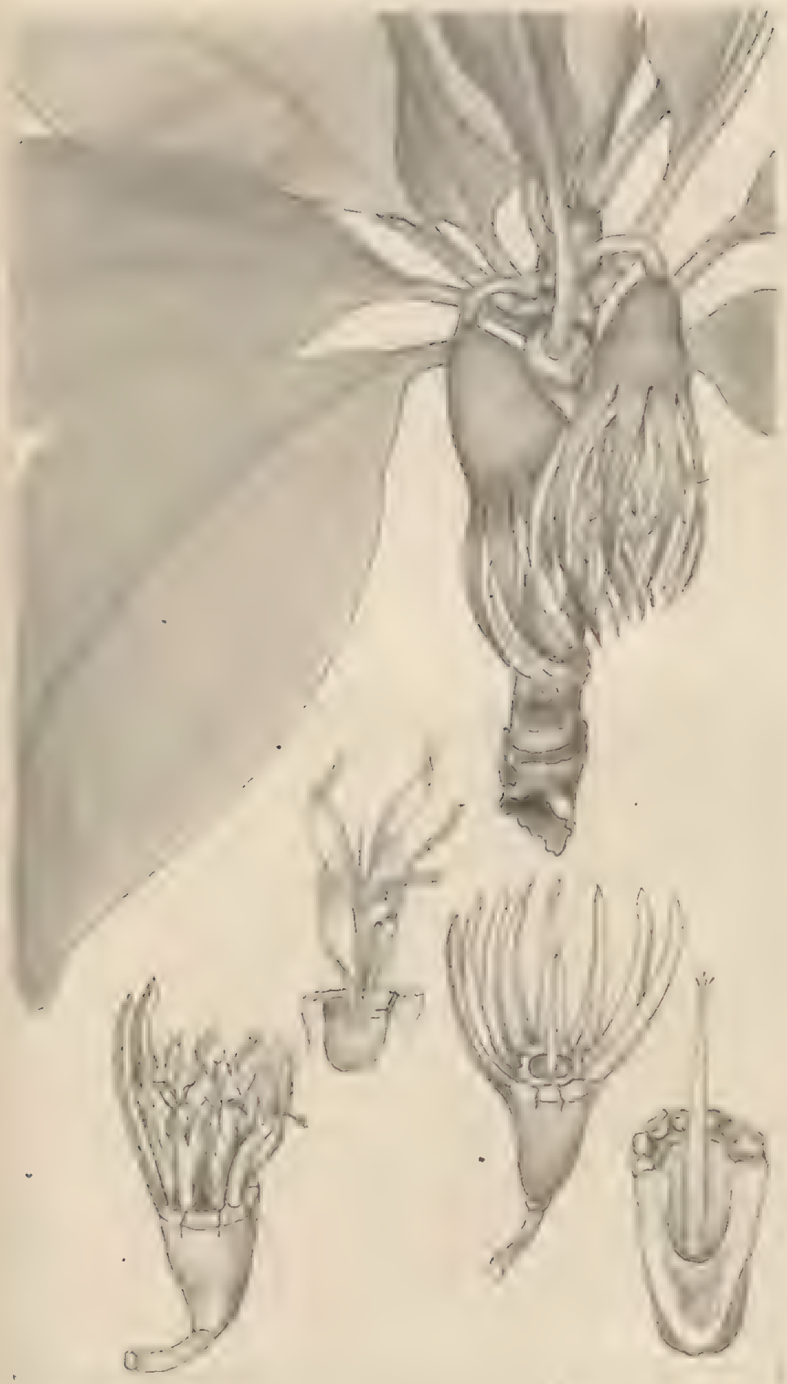
3. BRUGUIERA, Lam.

Calyx-tube turbinate or campanulate, adnate at the base to the ovary, the upper portion free, lined by the disk; lobes 10 to 15 or rarely 8 or 9, narrow and thick. Petals as many, 2-lobed, with or without setæ at the top. Stamens twice as many as petals; anthers linear, but usually shorter than the filaments. Ovary inferior, 2- to 4-celled, with 2 pendulous ovules in each cell; style filiform, with 2 to 4 minute stigmatic lobes. Fruit turbinate, crowned by the persistent calyx-lobes. Seeds solitary, without albumen, the rapidly enlarged radicle penetrating through the summit of the fruit.—Trees, with the habit of *Rhizophora*. Flowers solitary or few together, on short axillary recurved peduncles.

The genus is widely spread along the tropical seacoasts of the Old World. The two Australian species are both common Asiatic ones.

Flowers above 1 in. long. Petals with several setæ at the end . . . 1. *B. Rheedii.*
Flowers under 1 in. long. Petals without setæ at the end . . . . 2. *B. gymnorrhiza.*

1. **B. Rheedii,** *Blume, Enum. Pl. Jav.* 92. A glabrous evergreen tree. Leaves ovate or oblong-elliptical, very shortly acuminate, 3 to 5 in. long, narrowed into a rather long petiole, coriaceous. Stipules oblong, 1 to 2 in. long, very deciduous. Flowers solitary, on short recurved axillary peduncles, without bracts. Calyx very thick and rigid, from a little more than 1 in. to 1½ in. long, the narrow turbinate tube about one-third the whole length, the



angles scarcely prominent or sometimes quite obscure, the lobes usually about 12, but variable in number. Petals shorter than the calyx, densely hairy at the base, and the induplicate margins more or less hairy to the end; setæ usually 1 in the notch and 3 or 4 at the end of each lobe. Anthers embraced in pairs by the induplicate margins of the petals. Ovary very short and wholly inferior. Fruit at first crowned by the calyx-limb, which often falls off as the radicle protrudes, the latter assuming a narrow spindle-shaped form, obscurely notched, with about 6 prominent angles.—Arn. in Ann. Nat. Hist. i. 367; *B. australis*, A. Cunn. in Arn. l. c.; *B. Rheedii* and *B. Rumphii*, Blume, Mus. Bot. i. 138.

N. Australia. Port Essington, *A. Cunningham* (rather doubtful); islands of the Gulf of Carpentaria, *Henne.*

Queensland. Shoal Bay passage, *R. Brown*; along the coast, from Moreton Bay to Torres Straits, *A. Cunningham*, *F. Mueller*, and others.

Wight's figure of *B. Rheedii*, Ic. t. 239 A, as well as his specimens, differ in some slight respects, and are considered by Blume as constituting a distinct species. The setæ of the petals appear to be pretty constant in the Australian specimens, but it remains to be proved how far their presence and number are really good specific characters.

2. **B. gymnorrhiza,** *Lam.*; *Blume*, *Mus. Bot.* i. 136. An evergreen tree, closely resembling *B. Rheedii.* Leaves usually smaller. Flowers as in that species, solitary on short recurved axillary peduncles, but smaller, varying from ¾ to nearly 1 in. in length. Calyx-tube marked with very prominent acute angles; lobes usually 8 to 10. Petals shorter than the calyx, hairy on the margins, the lobes obtuse, without setæ, but a very short seta, often, although not always, in the notch between them.

N Australia. N.W. coast, *A. Cunningham*; N. coast, *R. Brown*; Roper river, *F. Mueller*; Port Essington and Limmen Bight river, *Leichhardt.*

Queensland. Broad Sound, *R. Brown.*

4. CARALLIA, Roxb.

Calyx-tube adnate at the base, campanulate above the ovary, lined by the thin disk, with 5 to 8 very short lobes or teeth. Petals as many as calyx-lobes, clawed, orbicular, jagged or slightly toothed. Stamens twice as many as petals, inserted with them at the base of the calyx-lobes round the undulated margin of the disk. Ovary inferior or adnate as high as the insertion of the ovules, 4-celled or rarely 3- or 5-celled, with 2 pendulous ovules in each cell. Fruit succulent, globular. Seed solitary, with a copious albumen; embryo curved, not growing before the seed falls.—Trees or shrubs. Flowers small, in axillary, pedunculate, usually trichotomous cymes.

A small genus, extending over tropical Asia, the Australian species the commonest over the whole range of the genus.

1. **C. integerrima,** *DC. Prod.* iii. 33. Usually a tree, glabrous in all its parts. Leaves sessile, obovate, elliptical or oblong, in the Australian specimens obtuse or obtusely acuminate, thinly coriaceous, 3 to 5 in. long, in Asiatic ones very variable in breadth and consistence, and often very obtuse or much acuminate. Cymes axillary or from old leafless nodes, on short peduncles, each short branch bearing 3 to 5 sessile flowers. Calyx shortly and broadly campanulate, not 3 lines diameter. Fruit globular, about 3 lines

diameter, crowned by the short connivent teeth of the calyx.—Benth. in Journ. Linn. Soc. iii. 74, with the synonyms there adduced; *C. zeylanica*, Arn.; Wight, Illustr. t. 90.

N. Australia. Brunswick Bay and York Sound, N.W. coast, *A. Cunningham;* N. coast, *R. Brown;* Upper Roper river, M'Adam Range and Nicholson river, *F. Mueller*.
Queensland. Endeavour river, *R. Brown*.
Widely spread over E. India and the Archipelago, extending to S. China.

ORDER XLVII. COMBRETACEÆ.

Calyx-tube adnate to the ovary at the base, narrowed above it and sometimes elongated; limb usually campanulate, with 4 or 5, rarely more, teeth lobes or segments, valvate or very rarely induplicate or imbricate. Petals none or as many as calyx-lobes, usually small, imbricate or valvate. Stamens as many or twice as many as calyx-lobes, rarely indefinite, inserted on the calyx; anthers opening in longitudinal slits or (in *Gyrocarpeæ*) in 2 valves. Ovary inferior, 1-celled, with 2 or more pendulous ovules, or (in *Gyrocarpeæ*) with 1 only; style filiform or scarcely any, with an entire terminal stigma. Fruit coriaceous, chartaceous or drupaceous, indehiscent (except in a few species not Australian). Seed solitary, pendulous, without albumen; cotyledons convolute or folded, very rarely flat inside and furrowed outside; radicle short, superior.—Trees shrubs or woody climbers. Leaves alternate or opposite, entire, without stipules. Flowers in axillary or terminal racemes spikes or heads, or (in *Gyrocarpeæ*) in cymes. Bracts usually small; bracteoles sometimes larger, often wanting.

The Order is distributed over the tropical regions of the New and the Old World, a very few species extending beyond the tropics in S. Africa or in N. India. Of the four Australian genera, three are common to America, Africa, and Asia, one of them restricted to sea-coasts, the fourth is endemic.

Anthers opening in slits. Ovules 2 or more. Flowers in racemes spikes or heads (**Combretaceæ** proper).
  Calyx-tube not produced above the ovary. Petals none. Stamens 10 . . . . 1. TERMINALIA.
  Calyx-tube produced above the ovary. Petals 5. Stamens 10 or fewer.
    Bracteoles small. Ovules 2 to 5. Maritime shrubs . . . 2. LUMNITZERA.
    Bracteoles enlarged and forming wings to the fruiting-calyx. Ovules 10 to 12. Silky or tomentose shrubs . . . . 3. MACROPTERANTHES.
Anthers opening in 2 valves. Ovules solitary. Flowers small, in cymes. Petals none (**Gyrocarpeæ**) . . . . 4. GYROCARPUS.

1. TERMINALIA, Linn.

(Chuncoa, *Ruiz and Pav.*)

Calyx-tube not produced above the ovary; limb campanulate or urceolate, 5-cleft. Petals none. Stamens 10, longer than the calyx. Style filiform. Ovules 2, rarely 3. Fruit ovoid, terete, angular, compressed or with 2 or (in species not Australian) 3 to 5 longitudinal wings. Cotyledons convolute.—Trees or erect shrubs. Leaves alternate or rarely opposite, usually marked with minute pellucid dots, often only visible under a strong lens. Flowers hermaphrodite or polygamous, small, green, white or rarely coloured, sessile in

loose spikes, rarely contracted into dense heads, either axillary or clustered on the old nodes. Calyx-tube usually small and narrow, the limb much broader.

The genus extends over nearly the whole range of the Order, but is most abundant in Africa and Asia. The Australian species appear to be all endemic, with the exception of *T. microcarpa*, which is also in Timor. Several of them however are as yet insufficiently known. They are often not to be distinguished without the fruit, which, when succulent and not winged, is rarely perfect in herbarium specimens, and we do not as yet know how far the fruit may vary in the same species. Some with broadly winged fruits have precisely the foliage and flowers of others which have wingless fruits. The circumscription of species here given may therefore require much revision when more perfect materials are obtained.

The subdivision of the genus into sections, or with some botanists into distinct genera, has been founded on the fruit alone, and although the line of demarcation is often very indefinite, no better character has as yet been found. The Australian species are included in *Chuncoa*, with 2 or 3 distinct wings to the fruit, *Catappa* with 2 wings, confluent above and below so as completely to encircle the drupe, and *Myrobalanus* without wings; but in *T. volucris* the wings are often slightly confluent so as to do away with all real distinction between *Chuncoa* and *Catappa*, and even between that and *Myrobalanus*, the acute angles of the fruit of *T. melanocarpa* almost pass into the wings of *Catappa*. The section *Pentaptera* with 4 or 5 wings to the fruit, is as yet unknown in Australia. Among the following species several are only known from very imperfect specimens, and may henceforth require much correction in their circumscription, although I do not think they will be much reduced in number.

Sect. I. **Catappa.**—*Fruit with 2 longitudinal membranous or coriaceous wings, or rarely, in the first 3 species, with a third narrow wing or prominent nerve.*

Fruit, including the wings, much broader than long.
  Fruit, including the wings, three times as broad as long; wings quite distinct. Leaves velvety-pubescent underneath . . . . 1. *T. platyptera.*
  Fruit, including the wings, not twice as broad as long; wings often confluent above and below. Leaves nearly glabrous. Spike slender, interrupted.
    Leaves obovate, much reticulate. Fruit-wings scarcely confluent 2. *T. volucris.*
    Leaves cuneate-oblong, much reticulate. Fruit-wings shortly confluent . . . . 3. *T. oblongata.*
Fruit, including the wings, rather longer than broad and quite surrounded by the confluent wings.
  Leaves lanceolate or oblong, silky-pubescent. Spikes elongated, dense. Fruits under ½ in. long . . . . 4. *T. bursarina.*
  Leaves lanceolate or oblong, mostly silky-pubescent. Spikes short, dense. Fruits ¾ to above 1 in. long . . . . 5. *T. circumalata.*
  Leaves obovate, glabrous. Spikes short, dense. Fruits ¾ to above 1 in. long . . . . 6. *T. pterocarpa.*
Fruit orbicular, quite surrounded by a narrow wing. Leaves obovate, much reticulate, glabrous. Spikes slender . . . . 7. *T. Thozetii.*

Sect. II. **Myrobalanus.**—*Fruit globular or more frequently ovoid, terete or slightly compressed, or surrounded by a prominent acute angle, but not distinctly winged.*

Leaves very obtuse, usually broad. Flowers rather small; stamens not above 3 lines long.
  Leaves quite glabrous.
    Leaves large, narrowed into a short petiole.
      Calyx-tube white, with appressed hairs. Drupe glabrous, surrounded by a very prominent angle . . . . 8. *T. melanocarpa.*
      Calyx-tube quite glabrous. Drupe ovoid, without any angle . 9. *T. Muelleri.*
    Leaves large, with a short broad flat petiole. Calyx tomentose. Drupe ovoid, without any angle . . . . 10. *T. latipes.*

Leaves large with a petiole of 2 to 3 in. Drupe acuminate, with 2 slightly prominent angles . . . . 11. *T. edulis.*
Leaves minutely hoary underneath. Drupe ovoid-globular, without angles . . . . 12. *T. discolor.*
Leaves loosely tomentose-pubescent, at least underneath.
Drupe ovoid glabrous . . . . 13. *T. porphyrocarpa.*
Drupe ovoid or oblong, often acuminate, tomentose . . . . 14. *T. platyphylla.*
Leaves mostly shortly acuminate. Flowers rather small. Stamens not above 3 lines long.
Leaves ovate.
Leaves three or four times as long as the petiole, the pellucid dots very conspicuous under a lens . . . . 15 *T. microcarpa.*
Leaves not twice as long as the petiole, the pellucid dots quite microscopic . . . . 16. *T. petiolaris.*
Leaves lanceolate or narrow oblong-elliptical. Drupe acuminate . 17. *T. erythrocarpa.*
Leaves narrow, obtuse. Flowers large. Stamens 5 to 6 lines long . 18. *T. grandiflora.*

SECTION I. CATAPPA, *DC.*—Fruit with 2 longitudinal membranous or coriaceous wings, or rarely with a third narrow wing or prominent nerve.

1. **T. platyptera,** *F. Muell. Fragm.* ii. 151. A tree, the young branches and petioles hoary-pubescent or almost velvety. Leaves crowded at the ends of the flowering branches, obovate or obovate-oblong, very obtuse, 1½ to 2½ in. long in our specimens, on a rather long petiole, velvety-pubescent on both sides when young, at length nearly glabrous above, the reticulate veins prominent. Spikes tomentose, slender, interrupted, exceeding the leaves. Calyx softly tomentose inside and out, the adnate tube about as long as the broad campanulate limb; lobes short and broad. Filaments glabrous. Style villous. Fruit 2-winged, tomentose-pubescent, about 1 in. long and 3 in. broad, including the horizontally divaricate wings, which are quite distinct, broadly obovate, plicately veined.

N. Australia. Arnhem's Land, *F. Mueller* (in flower); Lynd river, *Leichhardt* (in fruit).

Var. (?) *glabrata.* Minutely hoary or nearly glabrous; leaves more coriaceous and rather larger.—Gilbert river, *F. Mueller.*

2. **T. volucris,** *Herb. R. Br.* Branches divaricate, the young shoots very minutely hoary or silky-pubescent. Leaves from broadly obovate to oval-elliptical, 1½ to 3 in. long, narrowed at the base and often decurrent on the rather long petiole, thin, pale underneath, the primary veins more numerous and less oblique than in *T. pterocarpa*, which this species resembles without the fruit, and much and finely reticulate between them. Spikes slender, interrupted, usually longer than the leaves, especially when the flowers are chiefly males, the more female spikes shorter and denser. Calyx minutely pubescent, the broad limb as long as the ovary. Disk villous. Filaments glabrous. Style glabrous or hairy at the base. Fruit 2-winged, about ¾ in. long, and twice that breadth including the broad wings, which are either distinct or slightly continuous above or below the drupe or both; there are also frequently on one face of the drupe 1 or 2 prominent longitudinal angles.

N. Australia. Port Keats and Cambridge Gulf, N.W. coast, *A. Cunningham;* Victoria river, *F. Mueller;* islands of the Gulf of Carpentaria, *R. Brown;* Sweers Island, *Henne;* in the interior, lat. 18° 35′, *M'Douall Stuart's Expedition.* R. Brown's specimens are the only ones in good fruit, and are those alluded to by him in the Appendix to

Flinders's Voyage under the name of *Chuncoa*. I have little doubt of A. Cunningham's and F. Mueller's specimens belonging to the same species; the others are very imperfect.

Queensland? Some specimens from Broad Sound and Endeavour river, *R. Brown*, without fruit, appear to belong to the same species.

Var. (?) *coriacea*. Leaves larger, broader, more coriaceous; spikes long; lowest bracts sometimes leafy.—Upper Victoria river, *F. Mueller*. Specimens not in fruit and therefore doubtful.

3. **T. oblongata,** *F. Muell. Fragm.* ii. 152. A small tree with spreading branches, glabrous or the young shoots minutely hoary-pubescent. Leaves often clustered at the old nodes or on the short branchlets, cuneate-oblong, very obtuse or emarginate, 1 to 2 or rarely 3 in. long, narrowed into a short petiole, thin and much reticulate. Spikes slender, interrupted, shortly exceeding the leaves. Calyx minutely hoary-pubescent outside, very hairy inside. Stamens and style glabrous, not 2 lines long. Fruit 2-winged, about 8 to 9 lines long and twice as broad, including the wings, which are very shortly continuous both above and below the drupe; drupe in the centre flattened on one face, the other with a projecting longitudinal angle sometimes dilated into a third narrow wing.

N. Australia? A specimen, in leaf only, from the scrub, lat. 17° 30′, in *M'Douall Stuart's* collection, appears to belong to this species.

Queensland. Fitzroy, Suttor, Dawson, and Burdekin rivers, *F. Mueller*; Rockhampton, *Thozet*.

T. grandiflora has much the foliage of this species, but the flowers are much larger and the fruit is not winged.

4. **T. bursarina,** *F. Muell. Fragm.* ii. 149. A shrub or small tree, the young branches and foliage softly silky-pubescent. Leaves usually crowded, mostly narrow-oblong or lanceolate, obtuse, 1 to 1½ in. long, but occasionally passing into obovate or ovate, narrowed into a short petiole, the primary veins very oblique and reticulate between them. Spikes pedunculate, dense, exceeding the leaves and sometimes 3 to 4 in. long, the rhachis and flowers softly silky. Calyx-tube about 1 line long, the limb about as long, not so broad and more deeply divided into narrower lobes than in the allied species. Drupe, according to F. Mueller, 2- or rarely 3-winged, rather longer than broad, 2½ to 4 lines long.

N. Australia. Dry gravelly banks of Victoria river and frequent in low places round the Gulf of Carpentaria, *F. Mueller*.

5. **T. circumalata,** *F. Muell. Fragm.* iii. 91. Closely allied to *T. pterocarpa*, with the same flowers and fruit, and perhaps a narrow-leaved variety with the foliage and inflorescence more or less clothed with a soft silky pubescence. Leaves oblong-cuneate or elliptical, 1 to 2 or sometimes nearly 3 in. long, with very oblique primary veins, the reticulate veinlets few and scarcely prominent. Flowers very silky, crowded in short pedunculate spikes. Fruits including the wings, obovate, [illegible] to above 1 in. long, the drupe entirely surrounded by a continuous wing.

N. Australia. Cape Pond, N.W. coast, *A. Cunningham*; Depuch Island, *Bynoe*; maritime rocks, Nichol Bay, *F. Gregory's Expedition*; in the interior, lat. 18° 35′, *M'Douall Stuart's Expedition.* The latter specimens and some of A. Cunningham's are less pubescent with broader leaves, and seem to connect the species with *T. pterocarpa*. Other specimens from the islands of the Gulf of Carpentaria, *R. Brown*, may belong to *T. circumalata*, but are not in fruit.

6. **T. pterocarpa,** *F. Muell. Fragm.* ii. 152. A small tree, perfectly glabrous or the young shoots very minutely pubescent under a lens. Leaves obovate, of a pale somewhat glaucous hue, very obtuse, about $1\frac{1}{2}$ to 2 in. long, narrowed at the base and shortly decurrent on the petiole, the very oblique primary veins and reticulate veinlets few and not very prominent. Spikes short, pedunculate, very minutely pubescent or glabrous. Calyx-limb much shorter than the adnate tube. Disk hairy; styles and stamens glabrous. Fruit 2-winged, about $\frac{3}{4}$ to $1\frac{1}{4}$ in. long and $\frac{1}{2}$ to $\frac{3}{4}$ in. broad including the wings, which are confluent above and below, completely surrounding the hard almost dry drupe.

N. Australia. Copeland Island, *A. Cunningham;* sandstone table-land between the Upper Victoria river, Alligator river, and Macadam Range, *F. Mueller.*

7. **T. Thozetii,** *Benth.* Of this I have only seen a single specimen resembling *T. volucris* in foliage, except that it is perfectly glabrous, and the fruit is very different. Leaves narrow-obovate, crowded at the ends of the branches, 2 to 3 in. long, reticulate as in *T. volucris.* Flowers not seen. Fruiting-spikes slender, glabrous. Fruits quite smooth and glabrous, nearly orbicular, about $\frac{1}{2}$ in. diameter including the two narrow confluent wings, which completely encircle the drupe. They may not, however, be perfectly ripe in the specimen.

Queensland. Rockhampton, *Thozet.*

SECTION II. MYROBALANUS, *DC.*—Fruit globular or more frequently ovoid, terete or slightly compressed, or surrounded by a prominent acute angle, but not distinctly winged.

There is no difference whatever in inflorescence or flowers in the two sections, and no constant one in foliage, although in general there is a greater tendency to dry black in *Myrobalanus* than in *Catappa,* and the primary veins diverging from the midrib are more prominent parallel and distant.

8. **T. melanocarpa,** *F. Muell. Fragm.* iii. 92. A tree, usually glabrous, except the silky-white young buds and the flowers. Leaves obovate, very obtuse or rarely obscurely and very obtusely acuminate, 3 to 6 or even 8 in. long and sometimes above 6 in. broad, narrowed into a short petiole, coriaceous, the primary veins prominent underneath and rather distant, transversely reticulate between them. Spikes loose, about as long as the leaves, the rhachis nearly glabrous. Flowers numerous but not crowded. Calyx-tube or ovary white with appressed hairs; limb nearly glabrous outside, above 2 lines broad, densely woolly inside. Stamens and style glabrous. Drupes ovoid, somewhat compressed, obtuse or acuminate, about 1 in. long, surrounded usually by a prominent acute angle, which sometimes in the dried state almost assumes the appearance of a narrow thick wing, but in other specimens is scarcely prominent.

N. Australia. Shaded valleys, islands of the N. Coast, *R. Brown.*

Queensland. Snapper Island, *A. Cunningham;* Port Denison and Edgecombe Bay, *Fitzalan, Dallachy.*

9. **T. Muelleri,** *Benth.* A small tree in the scrub, growing to a considerable height in the ranges, glabrous or the young buds minutely silky. Leaves undistinguishable from those of *T. melanocarpa,* broadly obovate, ob-

tuse, usually 3 to 4 in. long, narrowed into a short petiole, rather coriaceous, the primary veins prominent underneath and rather distant. Spikes loose as in *T. melanocarpa*, flowers rather larger, and the calyx-tube as well as the limb glabrous outside. Drupe ovoid, said to be blue when fresh and rather acid, about ¾ in. long, without wings or angles.—*T. microcarpa*, F. Muell. Fragm. iii. 92, not of Decaisne.

Queensland. Islands of Howick's Group and off Cape Bedford and Cape Flattery, *F. Mueller*; Cape York, *M'Gillivray*; Edgecombe Bay, *Dallachy*.

Var. *minor*. Leaves narrower. Fruit smaller.—*T. glabra*, R. Br. Herb., but scarcely of Roxb.—Endeavour river, *Banks and Solander*; islands of Carpentaria (no fruit), *R. Brown*.

10. **T. latipes,** *Benth.* Branchlets glabrous with a loose bark. Leaves broadly obovate, 3 to 5 in. long, very obtuse, coriaceous, glabrous and glaucous, abruptly narrowed into a very short petiole, which as well as the midrib is very broad and flat, with the primary veins prominent and very divaricate. Spikes rusty-tomentose, about as long as the leaves. Flowers small, rather numerous, tomentose. Drupe ovoid, straight, without wings or angles.

N. Australia. Victoria river, *Bynoe*.

A. Cunningham's herbarium contains specimens of a species apparently allied to the above, but with longer and more slender petioles and slender glabrous spikes. They cannot, however, be determined for want of the fruit.

11. **T. edulis,** *F. Muell. Fragm.* ii. 151. A tree, the fruiting specimens quite glabrous. Leaves very broadly ovate, very obtuse at both ends, 4 to 8 in. long, coriaceous with prominent distant primary veins, on petioles of 2 or 3 in. Flowers unknown. Drupes ovoid-oblong, acuminate, sometimes surrounded by a slightly prominent angle and said to be yellowish when fresh.

N. Australia. Victoria, Fitzmaurice, and Alligator rivers, *F. Mueller*; South Goulburn Island, *A. Cunningham*. The specimens are insufficient for distinguishing them satisfactorily from *T. melanocarpa* and several others; the petioles are, however, longer than in any other Australian species except *T. petiolaris*, which has very differently shaped leaves.

12. **T. discolor,** *F. Muell. Fragm.* iii. 92. A tall shrub, the branches and young leaves hoary with a very minute pubescence. Leaves ovate or obovate, obtuse or shortly and obtusely acuminate, mostly 2 to 3 in. long, more narrowed at the base than in *T. Muelleri* and the primary veins less prominent, coriaceous and at length shining above, pale or whitish with a minute tomentum underneath. Flowers not seen, but from the scars on the old rhachis the spikes are probably loose. Fruit only seen imperfect, ovoid-globular, without wings or angles.

N. Australia. Hearson Island, Nichol Bay, *F. Gregory's Expedition*. The specimens are much too imperfect for a satisfactory diagnosis.

13. **T. porphyrocarpa,** *F. Muell. Herb.* A handsome tree, the young branches and petioles densely tomentose. Leaves crowded on the short branchlets, obovate, 2 to 3 in. long, on petioles rarely exceeding ½ in., loosely and softly tomentose-pubescent on both sides or becoming glabrous above when old, the primary veins prominent underneath. Spikes usually shorter than the leaves, rather dense. Calyx glabrous outside, the adnate tube about 1½ lines long, the limb fully 2 lines diameter, densely woolly inside. Fruit ovoid, glabrous, without wings or angles, said to be blue or purple.

Queensland. Mount Archer, Rockhampton, *Dallachy*; Fitzroy river, *Bowman*.

Var. (?) *eriantha*. Ovary and calyx densely silky-tomentose.—Mount Archer, *Dallachy*. These specimens are in flower only, and resemble in foliage *T. platyptera* as much as *T. porphyrocarpa*, but have the larger flowers of the latter species.

14. **T. platyphylla,** *F. Muell. Fragm.* ii. 150. A moderate-sized tree, the young branches and petioles more or less hoary or rusty with a short soft tomentum or sometimes densely tomentose and almost woolly. Leaves broadly obovate or ovate, very obtuse, 4 to 6 in. long, 2 to 4 in. broad, shortly narrowed into a petiole never exceeding 1 in. in some specimens, rather longer in others, coriaceous, softly pubescent on both sides or nearly glabrous above. Spikes usually shorter than the leaves, with numerous rather small flowers, loose or crowded. Calyx silky-pubescent or villous outside, densely villous inside. Drupes tomentose, ovoid or oblong, obtuse or acuminate, not winged.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*, *Henne*; Victoria, Fitzmaurice, and Roper rivers, *F. Mueller*; Port Essington, *Armstrong*. The species appears to be chiefly distinguished amongst other large obtuse-leaved ones by its soft pubescence and by the tomentose drupes. From the few specimens seen, the latter appear to be variable in shape. In R. Brown's specimens they are ovoid-oblong, obtuse, often surrounded by a slightly prominent or obscure angle; in one of F. Mueller's from Roper river, they are obliquely acuminate, with a prominent angle, and shortly contracted at the base; in another of F. Mueller's, they are straight, quite terete, oblong, rounded at both ends, but terminating abruptly in a narrow straight beak of about 2 lines.

A specimen from the N.W. coast, *Bynoe*, has the foliage of *T. platyphylla*, but the flowers in long loose glabrous spikes. It cannot, however, be determined for want of the fruit.

15. **T. microcarpa,** *Dcne. Herb. Tim. Descr.* 129. Young shoots minutely pubescent. Leaves broadly ovate-elliptical, rarely slightly obovate, shortly and obtusely acuminate, 3 to 5 in. long, narrowed into a petiole of about 1 in., glabrous or slightly hoary underneath with a minute pubescence, thinly coriaceous, with distant primary veins and copious reticulations, the pellucid dots although small, yet more conspicuous than in most species. Spikes attaining the length of the leaves. Flowers numerous but not densely crowded. Calyx rusty outside with a minute tomentum, densely villous inside, but not seen fully expanded. Drupe, according to Decaisne, olive-shaped, acuminate, glabrous.

N. Australia?, *Baudin's Expedition*. Also in Timor. I have not seen the Australian specimens mentioned by Decaisne as having been gathered on the S. coast, probably from one of those mistakes in the labels which occur in so many instances in the Australian collections in the Paris Herbarium, owing in a great measure to the illegible handwriting and absurd orthography of the original labels of the gardener who accompanied Baudin's Expedition. The above description is taken from a Timor specimen communicated by Decaisne. The species may possibly provo to be a variety of *T. Belerica*, Roxb., which extends over E. India and the Archipelago. The leaves are ovate, as stated in Decaisne's description, rather than obovate, as they are said to be by some mistake in the diagnosis.

16. **T. petiolaris,** *A. Cunn. Herb.* A tree, closely resembling *T. microcarpa* in foliage and inflorescence, but the petioles are much longer in proportion to the lamina, the pellucid dots are quite microscopic, and the smaller reticulations appear pellucid when seen against the light. Young shoots minutely pubescent. Adult leaves quite glabrous, broadly ovate, shortly and obtusely acuminate, 2 to 3 in. long, narrowed into a petiole of from $1\frac{1}{2}$ to

2 in. Spikes slender, with numerous flowers, only seen in bud. Fruit unknown.

N. Australia. Point Cunningham, Cygnet Bay and York Sound, N.W. coast, *A. Cunningham.*

17. **T. erythrocarpa,** *F. Muell. Fragm.* ii. 150. A tree, the fruiting specimens quite glabrous. Leaves oblong-lanceolate or narrow-elliptical, shortly acuminate, 4 to 6 in. long, narrowed towards the base into a petiole of ½ to 1 in., penniveined and finely reticulate, the midrib very prominent underneath. Spikes shorter than the leaves, but not seen in flower. Drupes red, ovoid, glabrous, ending in a long beak, but not yet ripe in our specimens.

N. Australia. Upper Victoria river, *F. Mueller.*

18. **T. grandiflora,** *Benth.* Branches and foliage silky or the leaves at length glabrous. Leaves linear-oblong or cuneate, obtuse or retuse, 1½ to 3 in. long, coriaceous, very obliquely veined and reticulate, narrowed into a short petiole. Spikes usually exceeding the leaves, with flowers much larger than in any other *Terminalia* known to me. Calyx-tube or ovary above 2 lines long, and the limb of the calyx as much in diameter, the lobes acuminate. Stamens 5 to 6 lines long. Drupe nearly globular, about 1 in. long, tapering into a conical beak of about ¼ in., smooth and glabrous, without wings or angles.

N. Australia. Islands of the Gulf of Carpentaria and Arnhem S. Bay, *R. Brown;* Port Essington, *Armstrong:* between Fitzmaurice and Victoria rivers, *F. Mueller.* There are two forms, one with long narrow leaves, quite glabrous except when very young, the spikes glabrous or slightly silky, and the stamens fully ½ in. long; the other much more silky, the leaves broader shorter and more cuneate, and the silky flowers rather, but not much, smaller.

2. LUMNITZERA, Willd.

Calyx-tube produced above the ovary but scarcely contracted, the limb campanulate, shortly 5-lobed or 5-toothed. Petals 5, spreading. Stamens 10 or fewer. Ovules 2 to 5; style filiform, with a minute stigma. Fruit ovoid-oblong, crowned by the persistent calyx, narrowed and flattened at the base, hard and almost woody. Seed linear, with convolute cotyledons.—Maritime trees or shrubs. Leaves crowded at the ends of the branches, obovate or cuneate, thick, entire or slightly crenate. Flowers in short racemes. Bracteoles 2, adnate to the base of the calyx-tube, persistent but not enlarged after flowering.

The genus is limited to the two following species, both of them widely dispersed along the seacoasts of tropical Asia, extending from E. Africa to the Pacific Islands.

Flowers scarlet, in terminal racemes. Calyx fully ½ in. long. Stamens twice as long as the petals . . . . 1. *L. coccinea.*
Flowers white, in axillary racemes. Calyx about 4 lines long. Stamens scarcely exceeding the petals . . . . 2. *L. racemosa.*

1. **L. coccinea,** *W. and Arn. Prod.* 316. A glabrous bushy shrub or small tree. Leaves obovate or oblong-cuneate, very obtuse, often 2 in. long, thick and fleshy. Flowers scarlet, in dense terminal racemes, of which occasionally 2 or 3 form a small corymb. Calyx in the Australian specimens fully

½ in. long at the time of flowering, continuous with and narrowed into a somewhat flattened pedicel of 2 or 3 lines; lobes of the limb short, broad and obtuse. Petals exceeding the calyx-lobes by about 2 lines; stamens twice as long. Fruiting-calyx above 1 in. long.

Queensland. Endeavour river, *Banks and Solander;* edges of mangrove swamps, Cape York, *M'Gillivray.* We have precisely the same form from the Feejee Islands; the common Malayan specimens have usually rather smaller flowers.

2. **L. racemosa,** *Willd.; DC. Prod.* iii. 22. A glabrous tree or tall shrub, with the foliage of *L. coccinea*, but the racemes are all axillary, usually about as long as the leaves, and the flowers are smaller and white. Calyx at the time of flowering about 4 lines long, and not above ½ in. when in fruit, the lobes or teeth very short. Petals about 1½ lines long, and the stamens very little longer.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown, Henne.*
Queensland. Cairncross Island, Torres' Straits, *M'Gillivray, Henne;* Fitzroy river and near Keppel Bay, *Thozet.*

This appears to be the commonest of the two species on the coasts of tropical Asia.

3. MACROPTERANTHES, F. Muell.

Calyx-tube produced above the ovary and scarcely contracted, the limb rather broader, shortly 5-lobed or 5-toothed. Petals 5. Stamens 10 or fewer. Ovules 10 to 12, pendulous; style filiform, with a minute stigma. Fruit (oblong?) crowned by the persistent calyx. Seed . . .—Silky-white or tomentose shrubs or small trees. Leaves opposite or clustered at the nodes, small obovate or oblong, entire. Flowers in pairs on axillary (or terminal?) peduncles. Bracteoles adnate in the centre to the base of the calyx; the margins free, much enlarged after flowering, forming wings to the fruiting calyx.

The genus is endemic in Australia. It is very closely allied to *Lumnitzera*, differing in the wings of the fruiting-calyx and in the number of ovules, and the species are not strictly maritime.

Leaves almost sessile, clustered at the nodes, oblong, silvery-white.
  Bracteoles or calyx-wings much shorter than the fruiting-calyx . 1. *M. montana.*
  Bracteoles or calyx-wings as long as or longer than the fruiting-calyx . . . . 2. *M. Kekwickii.*
Leaves distinctly petiolate, opposite, obovate, tomentose . . . . 3. *M. Leichhardtii.*

1. **M. montana,** *F. Muell. Fragm.* iii. 91. A small tree, with rigid divaricate branchlets, occasionally spinescent. Leaves clustered at the nodes, narrow-oblong, obtuse, narrowed into a very short petiole, silvery-tomentose on both sides. Flowers only seen loose and not perfect. Calyx after flowering attaining nearly 1 in. but not yet ripe, densely silky-pubescent outside, with short lobes. Petals apparently oblong or obovate, about ¼ in. long. Stamens longer. Bracteoles about two-thirds as long as the calyx, nearly orbicular, the broad almost scarious free margins folded back.—*Lumnitzera montana*, F. Muell. Fragm. ii. 149.

Queensland. Arid hills, Newcastle Range, *F. Mueller.*

2. **M. Kekwickii,** *F. Muell. Fragm.* iii. 151. Branches rigid, probably spinescent, and leaves small, oblong, silvery-white, clustered at the nodes, as

in *M. montana*. Flowers in pairs, sessile at the end of axillary peduncles, rather shorter than the leaves. Calyx silky-white, scarcely 4 lines long at the time of flowering, with the orbicular bracteoles about half as long, enlarged after flowering to 6 or 7 lines, with the bracteoles reticulate, almost scarious, and quite as long as the calyx, or even exceeding it. Petals ovate, exceeding the calyx-lobes by about 1 line. Stamens rather longer.

N. Australia. Newcastle Water, lat. 17° 30′, *M'Douall Stuart's Expedition.*

3. **M. Leichhardtii,** *F. Muell. Fragm.* iii. 91. Apparently more branched and not so rigid as the other two species. Leaves less crowded, all opposite, obovate, very obtuse, mostly $\frac{1}{2}$ to $\frac{3}{4}$ in. long, narrowed into a petiole of 1 to 2 lines, softly silky-tomentose on both sides, but not so white as in the other species, and becoming nearly glabrous above with age. Peduncles shorter than the leaves, bearing at the end 2 pedicellate flowers, of which I have only seen the calyx, enlarged after flowering to from 4 to 6 lines, with the adnate bracteoles nearly as long.

Queensland. Ruined Castle Creek, *Leichhardt.*

4. GYROCARPUS, Jacq.

Calyx-tube adnate to the ovary, or none in male flowers; limb 4- to 7-cleft. Petals none. Stamens 4 to 6, alternating with as many club-shaped staminodia, or fewer or none in the female flowers. Ovary inferior, with 1 pendulous ovule and a sessile stigma, abortive in the male flowers. Drupe dry, crowned by 2 much elongated, erect, spathulate, wing-like calyx-lobes. Seed oblong, pendulous, without albumen; cotyledons petiolate, convolute round the radicle.—Tall tree. Leaves alternate, broad, entire or lobed. Flowers polygamous, very small, crowded in dense corymbose cymes.

The genus consists of a single species common to the tropical regions of Central America and tropical Asia. It forms one of the small group of *Gyrocarpeæ*, Dumort., or *Illigereæ*, Blume, associated by many botanists with *Laurineæ*, chiefly on account of the dehiscence of the anthers, but which Lindley is no doubt more correct in adding as a suborder to *Combretaceæ*. The same dehiscence of the anthers is exemplified in *Berberideæ* and *Hamamelideæ*, without being constant in either Order. The fruit and seeds are quite those of *Combretaceæ*, and there is considerable affinity in many other respects between *Illigera* and *Combretaceæ* on the one hand and *Hamamelideæ* on the other.

1. **G. Jacquini,** *Roxb. Pl. Corom.* i. 2, *t.* 1, *copied into Lam. Illustr. t.* 850. A tall tree. Leaves deciduous, crowded at the ends of the thick branchlets, broadly ovate or orbicular, on young trees often 8 to 10 in. long and broad and deeply 3-lobed, on older trees usually smaller and entire or broadly and shortly lobed, usually more or less acuminate, truncate or cordate at the base, glabrous or tomentose underneath or on both sides, the petioles varying from 1 to 4 in. Peduncles in the upper axils or close above the last leaves, rarely exceeding the petioles, bearing each a repeatedly branched cyme with densely crowded exceedingly small flowers, forming little globular heads before expanding, sometimes entirely males, sometimes with a few hermaphrodite or female flowers scattered in the cyme or chiefly in the forks. Drupes ovoid, usually about $\frac{3}{4}$ in. long, the wings erect, oblanceolate, rounded at the end, much narrowed below the middle, varying in the Australian specimens from under 2 in. long and about $\frac{1}{2}$ in. broad to $2\frac{1}{2}$ in. long and about

5 lines broad.—Pers. Syn. i. 143 ; *G. americanus*, Jacq. ; Meissn. in DC. Prod. xv. 247 ; *G. asiaticus*, Willd. ; Meissn. l. c. 248 ; *G. acuminatus*, Meissn. l. c. ; *G. sphenopterus*, R. Br. ; Endl. Iconogr. t. 43 ; Meissn. l. c. ; *G. rugosus*, R. Br. ; Meissn. l. c.

N. Australia. Victoria river, *Bynoe, F. Mueller.*

Queensland. Gilbert river, *F. Mueller ;* Port Denison, *Fitzalan ?*

Also in Columbia and Central America, in tropical Asia, the eastern Archipelago, and islands of the Pacific. All the writers who, unwilling to believe that the same species should have so wide a geographical range, have distinguished several species of *Gyrocarpus*, have expressed some hesitation in doing so, for the characters assigned all break down when applied to other specimens than those actually described. The differences in the indumentum and shape of the leaf are often much greater in different specimens from the same locality than between those gathered at the greatest distances. None are more striking than in two specimens from the Feejee Islands which, according to Seemann's notes, represent the young and the old trees. In the former the leaves are large, broadly cordate and deeply 3-lobed as figured in Jacq. Ic. Amer. t. 178, f. 80, and loosely tomentose on both sides ; in the latter they are quite entire, glabrous, more acuminate and more acute at the base than in the form characterized as *G. acuminatus*, Meissn. The fruit-wings are usually longest in the American, shortest in the Australian specimens, but not uniformly so even in the comparatively few specimens preserved in herbaria. Glabrous and more or less hairy filaments occur in India as well as in Australia. The tomentum of the leaves is even more inconstant than any other character. R. Brown's specimens have been unfortunately mislaid, but from Endlicher's figure engraved from Bauer's drawing, and from the variety of Australian specimens I have seen, I have no doubt that he was right in the suspicion he expressed that his species might not be different from the common one.

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